# WOLF MINERALS LIMITED

# ACN 121 831 472

# NOTICE OF GENERAL MEETING

**TIME**: 9:00 a.m. (WST)

**DATE**: Friday, 22 April 2016

**PLACE**: The Celtic Club
48 Ord Street
West Perth
Western Australia 6005

*This Notice of Meeting should be read in its entirety. If Shareholders are in doubt as to how they should vote, they should seek advice from their professional advisers prior to voting.*

*The Independent Expert has formed the opinion that the transaction subject to Resolution 1 is **NOT FAIR, BUT REASONABLE** to the non-associated shareholders of Wolf.*

*Wolf's directors (other than Mr Chris Corbett, who has abstained given his role as an employee of Resource Capital Funds Management Pty Ltd, a wholly owned subsidiary of RCF Management L.L.C., which has management agreements with RCF V and RCF VI) recommend that eligible shareholders vote IN FAVOUR of Resolution 1.*

*Should you wish to discuss the matters in this Notice of Meeting please do not hesitate to contact the Joint Company Secretaries, Mr Richard Lucas and Ms Pauline Carr, on +61 8 6364 3776.*

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Dear Shareholders,

As you will be aware, along with most commodity markets the tungsten market is currently experiencing low demand, though it remains sound in some locations such as Japan and Europe. The tungsten price is currently about 50% lower than when the Company commenced construction of Drakelands in March 2014.

Accordingly, to strengthen the Company's balance sheet during this period of low commodity prices, the Company required further funding support for the ramp up at Drakelands and to facilitate the Company's debt repayments.

As set out in Wolf's ASX announcement on 29 January 2016, the Company entered into a Standby Subscription Facility with Resource Capital Fund VI L.P. (**RCF VI**) pursuant to which RCF VI has agreed (subject to shareholder and other approvals) to provide Wolf with funding support of up to £25 million (approximately A$51 million[1]) by subscribing or procuring the subscription for Wolf shares at any time for a six month period from the satisfaction of the conditions precedent.

Resource Capital Fund V L.P. (**RCF V**) (which is associated with RCF VI) currently holds 41.70% of the issued capital in the Company. Wolf recognises the ongoing support of RCF V, however given the size of the associated shareholding, the Company is required to obtain the prior approval of its shareholders before issuing further shares to RCF VI or its affiliate pursuant to the Standby Subscription Facility.

You will note the Independent Expert's Report annexed to this Notice of Meeting, which sets out the opinion of the independent expert that the proposed transaction is **NOT FAIR BUT REASONABLE** to Wolf shareholders.

I would encourage you to read this Notice of Meeting, Explanatory Memorandum and the Independent Expert's Report in their entirety before voting on the transaction.

On behalf of the Board (apart from Chris Corbett, who has abstained from making a recommendation due to his relationship with RCF V and RCF VI), I recommend that you vote in favour of the transaction and look forward to your ongoing support and investment at this exciting stage in the Company's development.

Yours faithfully

**John Hopkins OAM**

Chairman
**Wolf Minerals Limited**

[1] Based on the exchange rate of 2.02 AUD/GBP as at 28 January 2016.

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## IMPORTANT INFORMATION

### Time and place of Meeting

Notice is given that the Meeting will be held at 9:00 a.m. (WST) on Friday, 22 April 2016 at:

The Celtic Club, 48 Ord Street, West Perth, Western Australia 6005

### Your vote is important

The business of the Meeting affects your shareholding and your vote is important.

### Voting eligibility

The Directors have determined pursuant to Regulation 7.11.37 of the Corporations Regulations 2001 (Cth) that the persons eligible to vote at the Meeting are those who are registered Shareholders at 5:00 p.m. (WST) on Wednesday, 20 April 2016.

### Voting in person

To vote in person, attend the Meeting at the time, date and place set out above.

### Voting by proxy

To vote by proxy, please complete and sign the enclosed Proxy Form and return by the time and in accordance with the instructions set out on the Proxy Form.

In accordance with section 249L of the Corporations Act, Shareholders are advised that:

- each Shareholder has a right to appoint a proxy;
- the proxy need not be a Shareholder of the Company; and
- a Shareholder who is entitled to cast 2 or more votes may appoint 2 proxies and may specify the proportion or number of votes each proxy is appointed to exercise. If the member appoints 2 proxies and the appointment does not specify the proportion or number of the member's votes, then in accordance with section 249X(3) of the Corporations Act, each proxy may exercise one-half of the votes.

Shareholders and their proxies should be aware that changes to the Corporations Act made in 2011 mean that:

- if proxy holders vote, they must cast all directed proxies as directed; and

- any directed proxies which are not voted will automatically default to the Chair, who must vote the proxies as directed.

Further details on these changes are set out below.

***Proxy vote if appointment specifies way to vote***

Section 250BB(1) of the Corporations Act provides that an appointment of a proxy may specify the way the proxy is to vote on a particular Resolution and, **if it does**:

- the proxy need not vote on a show of hands, but if the proxy does so, the proxy must vote that way (ie as directed); and
- if the proxy has 2 or more appointments that specify different ways to vote on the Resolution, the proxy must not vote on a show of hands; and
- if the proxy is the chair of the meeting at which the Resolution is voted on, the proxy must vote on a poll, and must vote that way (ie as directed); and
- if the proxy is not the chair, the proxy need not vote on the poll, but if the proxy does so, the proxy must vote that way (ie as directed).

***Transfer of non-chair proxy to chair in certain circumstances***

Section 250BC of the Corporations Act provides that, if:

- an appointment of a proxy specifies the way the proxy is to vote on a particular Resolution at a meeting of the Company's members; and
- the appointed proxy is not the chair of the meeting; and
- at the meeting, a poll is duly demanded on the Resolution; and
- either of the following applies:
  - the proxy is not recorded as attending the meeting; or
  - the proxy does not vote on the Resolution,

the chair of the meeting is taken, before voting on the Resolution closes, to have been appointed as the proxy for the purposes of voting on the Resolution at the meeting.

## BUSINESS OF THE MEETING

### AGENDA

### 1. RESOLUTION 1 – ISSUE OF SHARES AND INCREASE IN RELEVANT INTEREST

To consider and, if thought fit, to pass, with or without amendment, the following Resolution as an **ordinary resolution**:

> *"That, for the purposes of ASX Listing Rule 10.11, section 611 (Item 7) of the Corporations Act and for all other purposes, Shareholders approve:*
>
> *(a) the issue to RCF VI, Annex Fund or an Affiliate of up to 272,034,820 Shares; and*
>
> *(b) any subsequent increase in the voting power of the RCF Associates,*
>
> *on the further terms and conditions set out in the Explanatory Statement."*

**Directors Recommendation:** The Directors (other than Mr Chris Corbett, who has abstained) recommend that Shareholders vote in favour of Resolution 1.

**Independent Expert's Report:** Shareholders should carefully consider the Independent Expert's Report prepared by BDO Corporate Finance (WA) Pty Ltd (**BDO**) for the purposes of the Shareholder approval required under section 611 (Item 7) of the Corporations Act. The Independent Expert's Report comments on the fairness and reasonableness of the transaction to the Shareholders in the Company who are not associated with the RCF Associates.

**Voting Exclusion:** The Company will disregard any votes cast on this Resolution by RCF V or any other RCF Associate. However, the Company need not disregard a vote if it is cast by a person as proxy for a person who is entitled to vote, in accordance with the directions on the proxy form, or it is cast by the person chairing the Meeting as proxy for a person who is entitled to vote, in accordance with a direction on the proxy form to vote as the proxy decides.

**Dated:** 21 March 2016

**By order of the Board**

**Richard Lucas**
**Company Secretary**

## EXPLANATORY STATEMENT

This Explanatory Statement has been prepared to provide information which the Directors believe to be material to Shareholders in deciding whether or not to pass the Resolution.

### 1. BACKGROUND

### 1.1 Drakelands mine

The Company took control of the processing plant at the Drakelands open pit mine (**Drakelands**) in late September 2015 and is focused on the ramp up of operations to design capacity in 2016. The Drakelands mine and processing plant are now operating on a seven days a week basis for a trial period, which if successful the Company will apply to make the arrangement permanent. A permanent change would increase available operating time by more than 27% in comparison to the original permission for a 5½ day working week and provide the opportunity to produce additional volumes of tungsten and tin concentrates with no further capital expenditure. It also provides the opportunity to lower operating costs, pushing the operation further down the tungsten concentrate production cost curve, as well as generating additional employment opportunities.

An application was submitted to the Devon County Council in December 2015 to extend the duration of the planning permission at Drakelands. The planning permission was granted in 1986, with a 35 year life, and an extension is being sought until 2036.

Similar to most commodities, the tungsten market is however currently experiencing low demand as a result of soft conditions in the mining, oil and fracking industries and the economic slowdown in China. Whilst recent demand for tungsten concentrate remains sound in Japan and Europe as a result of steady output from the automotive sector, demand in other regions is low. Although current market conditions appear to have resulted in some supply being withdrawn from the market, the tungsten price is currently about 50% lower than what it was when construction of Drakelands commenced in March 2014.

Therefore, to strengthen the Company's balance sheet during this period of low commodity prices, the Company required further funding support for the ramp up at Drakelands and to facilitate the Company's debt repayments. A number of alternative sources of funding were canvassed, including debt and equity instruments. In addition the Company and its Senior Lenders have entered into a waiver and variation deed (**Waiver and Variation Deed**) providing certain waivers of, and amendments to, the Senior Facility Documents to grant relief up to 31 March 2017 from financial and other covenants. The Waiver and Variation Deed is conditional upon the Company obtaining committed equity funding for an amount up to £25 million by 30 April 2016.

### 1.2 Standby Subscription Facility

As set out in the announcement on 29 January 2016, the Company has entered into a Standby Subscription Facility agreement with Resource Capital Fund VI L.P. (**RCF VI**) pursuant to which RCF VI has agreed (subject to Shareholder and other approvals, as set out below) to provide the Company with the required funding support through a standby equity subscription facility (**Standby Subscription Facility**).

RCF VI and Annex Fund are associates of Resource Capital Fund V L.P. (**RCF V**), which currently holds 41.7% of the issued capital in the Company.

The terms of the Standby Subscription Facility provide that RCF VI, Annex Fund or an Affiliate, will subscribe for a maximum amount of £25 million (approximately A$51 million[2]) based on an issue price of 9.19 pence per Share (approximately A$0.19[3] per

[2] Based on the exchange rate of 2.02 AUD/GBP as at 28 January 2016.

Share). This represents an approximate 13% premium to the Share price on the ASX and on the London Stock Exchange as at close on 28 January 2016 (the date prior to the announcement) and an approximate 14% premium to the Share price on the ASX as at close on 7 March 2016.

The Standby Subscription Facility enables the Company to request RCF VI to subscribe or procure the subscription by Annex Fund (or an Affiliate) for Shares at the Issue Price at any time for a six month period from the satisfaction of the conditions precedent (**Availability Period**). The Company can request RCF VI to subscribe or procure the subscription for multiple tranches of Shares as and when required by the Company or as and when required under the Waiver and Variation Deed, with each tranche of Shares being not less than £2,500,000, up to the Maximum Subscription Amount.

The Company will, by no later than 30 April 2016, request RCF VI to subscribe or procure the subscription for the first tranche of £12,000,000 of Shares.

The maximum subscription amount of £25 million (**Maximum Subscription Amount**) will be reduced by the aggregate proceeds received or agreed to be received by the Company under any third party equity investment in the Company from 29 January 2016 until the end of the Availability Period. The issue price for each tranche of Subscription Shares (**Issue Price**) will be 9.19 pence per Share unless there is an equity investment in the Company during the Availability Period at a lower price than 9.19 pence per Share, in which case the Issue Price for subsequent tranches of Subscription Shares pursuant to the Standby Subscription Facility will be at that lower price.

The Company will, shortly prior to the end of the Availability Period, request RCF VI to subscribe or procure the subscription for Shares for the balance of the Maximum Subscription Amount.

The Standby Subscription Facility is conditional upon (among other things):

(a) Shareholders approving Resolution 1;

(b) receipt of all necessary governmental and regulatory approvals, including Foreign Investment Review Board approval; and

(c) waiver of ASX Listing Rule 10.13.3 to enable the Subscription Shares to be issued at any time during the Availability Period, outside of the 1 month period required by ASX Listing Rule 10.13.3 (see section 2.6 for further details).

The Standby Subscription Facility agreement provides RCF VI and Annex Fund with a right to appoint a nominee to the Board (in addition to RCF V's nominee) and to participate in future equity issues by the Company. RCF VI's and Annex Fund's entitlement to these rights continues provided that RCF VI together with Annex Fund hold at least 10% of all issued Shares or, where RCF VI together with Annex Fund each hold less than 10%, that the RCF Associates hold at least 15% of all issued Shares.

The Company has provided RCF VI with warranties, indemnities, and access to information during the Availability Period. The Standby Subscription Facility agreement also provides RCF VI with limited rights of termination where:

- a "Default" occurs under the Senior Facility Documents (as that term is defined under the relevant Senior Facility Document (as varied and supplemented by the Waiver and Variation Deed)) and the Senior Lenders have formally commenced Enforcement Action (as defined in the Security Trust and Intercreditor Deed); or

[3] Based on an exchange rate of 2.02 AUD/GBP.

- the Company issues shares, options or convertible securities other than as contemplated under the Standby Subscription Facility or with the consent of RCF VI.

Following the issue of the Subscription Shares, the RCF Associates' voting power in the Company may increase to as much as 56.36% (as further set out in section 2.2). The Company is seeking Shareholder approval for this increase in voting power pursuant to Resolution 1.

### 1.3 Use of Funds

The Company intends to use the funds raised under the Standby Subscription Facility as follows:

| Sources of Capital | Funding Allocation (£M) | Funding Allocation (A$M)[1] |
|---|---|---|
| Net working capital as at 1 January 2016 | 15.6 | 31.6 |
| Issue of Subscription Shares[2.] | 25.0 | 50.5 |
| **TOTAL** | **40.6** | **82.1** |
| **Uses of Capital** | **Funding Allocation (£M)** | **Funding Allocation (A$M)[1]** |
| Operations at Drakelands | 21.5 | 43.5 |
| Debt service | 19.1 | 38.6 |
| **TOTAL** | **40.6** | **82.1** |

**Notes:**

1. Based on a 2.02 AUD/GBP exchange rate.
2. Assumes maximum number of Subscription Shares issued pursuant to Standby Subscription Facility at 9.19 pence per Share.

As set out in section 1.2 above, the Issue Price for each tranche of Subscription Shares will be 9.19 pence per Share unless there is an equity investment in the Company during the Availability Period at a lower price than 9.19 pence per Share, in which case the Issue Price for subsequent tranches of Subscription Shares pursuant to the Standby Subscription Facility will be at that lower price. The maximum number of Shares that could be issued to RCF VI (or its nominee) would remain capped at 272,034,820 Shares. Should this occur prior to the Company lodging its first subscription request, the Maximum Subscription Amount would be:

| Issue Price | Maximum Subscription Amount[4] |
|---|---|
| 9.19 pence | £25,000,000 |
| 9.1 pence | £24,755,169 |
| 9 pence | £24,483,134 |

[4] Assumes maximum number of Shares (272,034,820 Shares) are issued to RCF VI (or its nominee) at the relevant Issue Price.

### 1.4 Proposed Capital Structure upon completing the Standby Subscription Facility

The Company's capital structure as at the date of this Notice of Meeting is set out below:

| **Fully Paid Shares** | **Number** |
|---|---|
| Shares currently on issue | 809,724,760 |
| **Partly Paid Shares** | **Number** |
| Partly Paid Shares currently on issue | Nil |
| **Unlisted Options** | |
| Options exercisable at A$0.264 on or before 22 May 2016 | 3,200,000 |
| **Performance Rights** | **Number** |
| Performance Rights expiring 30 June 2016 | 1,461,429 |
| Performance Rights expiring 30 June 2017 | 1,491,989 |
| Performance Rights expiring 30 June 2018 | 1,982,545 |
| Performance Rights expiring 22 December 2020 | 366,945 |
| **TOTAL** | **5,302,908** |

The capital structure of the Company, assuming the maximum number of Subscription Shares issued to RCF VI, Annex Fund (or an Affiliate) pursuant to the Standby Subscription Facility is set out below:

| **Shares** | **Number** |
|---|---|
| Shares currently on issue | 809,724,760 |
| Maximum Shares to be issued to RCF VI, Annex Fund (or an Affiliate)[1] | 272,034,820 |
| **TOTAL** | **1,081,759,580** |

**Notes:**

1. Assumes maximum number of Subscription Shares issued pursuant to Standby Subscription Facility on the basis of an Issue Price of 9.19 pence.

   Assumes no other Shares are issued to any entity other than under the Standby Subscription Facility.

## 2. RESOLUTION 1 – APPROVAL OF EQUITY STANDBY FACLITY, ISSUE OF SHARES AND INCREASE IN RELEVANT INTEREST

### 2.1 Section 611 Item 7 of the Corporations Act

***Section 606 of the Corporations Act – statutory prohibition***

Pursuant to Section 606(1) of the Corporations Act, a person must not acquire a relevant interest in issued voting shares in a listed company if the person acquiring the interest does so through a transaction in relation to securities entered into by or on behalf of the person and because of the transaction, that person's or someone else's voting power in the company increases:

(a) from 20% or below to more than 20%; or

(b) from a starting point above 20% and below 90%.

***Voting power and relevant interests***

A person's voting power in a body corporate is determined in accordance with Section 610 of the Corporations Act. The calculation of a person's voting power in a company involves determining the voting shares in the company in which the person and the person's "associates" have a "relevant interest".

A person (**second person**) will be an "associate" of the other person (**first person**) if:

(a) the first person is a body corporate and the second person is:

(i) a body corporate the first person controls;

(ii) a body corporate that controls the first person; or

(iii) a body corporate that is controlled by an entity that controls the first person;

(b) the second person has entered or proposes to enter into a relevant agreement with the first person for the purpose of controlling or influencing the composition of the Company's board or the conduct of the Company's affairs; or

(c) the second person is a person with whom the first person is acting or proposed to act, in concert in relation to the Company's affairs.

Section 608(1) of the Corporations Act provides that a person has a "relevant interest" in securities if they:

(a) are the holder of the securities;

(b) have the power to exercise, or control the exercise of, a right to vote attached to the securities; or

(c) have power to dispose of, or control the exercise of a power to dispose of, the securities.

It does not matter how remote the relevant interest is or how it arises. If two or more people can jointly exercise one of these powers, each of them is taken to have that power.

Section 608(3) of the Corporations Act provides that a person has a relevant interest in any securities held by a body corporate in which that person's voting power exceeds 20%.

***Relevant interest of the RCF Associates***

As at the date of this Notice, RCF V has a relevant interest in 337,669,237 Shares or 41.7% of the Company's issued capital.

Each of RCF VI and Annex Fund are associates of RCF V for the purposes of the Standby Subscription Facility, and accordingly are deemed to have a relevant interest in Shares held by RCF V.

As the relevant interest of the RCF Associates in the Company is currently 41.70%, the RCF Associates will be unable to increase their percentage holding in the Company (without breaching Section 606 of the Corporations Act) unless an exception applies.

***Section 611 Item 7 of the Corporations Act – Exemption from Section 606***

Section 611 of the Corporations Act provides that certain acquisitions of relevant interests in a company's voting shares are exempt from the prohibition in Section 606(1), including acquisitions approved previously by a resolution passed at a general meeting of the company in which the acquisition is made (Section 611 Item 7).

For the exemption in Section 611 Item 7 to apply, Shareholders must be given all information known to the person proposing to make the acquisition or their associates, or known to the Company, that was material to the decision on how to vote on the resolution. ASIC has indicated what additional information should be provided to shareholders in these circumstances.

For the purposes of the Corporations Act and ASIC Regulatory Guide 74 the following information is disclosed in relation to the acquisition of a relevant interest in the Company by RCF VI, Annex Fund or an Affiliate. Shareholders are also referred to the Independent Expert's Report prepared by BDO which forms part of this Explanatory Statement. The Independent Expert's Report concludes that the acquisition is **not fair, but reasonable** to the non-associated Shareholders of the Company.

## 2.2 Change in voting power

On the assumption that no Shares are issued other than as contemplated in this Notice of Meeting, and no other Options are exercised, the maximum extent of the increase in the RCF Associates' voting power that would result from the issue of the Subscription Shares is 14.66%.

Further details of the increase in voting power of the RCF Associates are set out in the table below:

| Name | Current | Following maximum subscription under Standby Subscription Facility |
|---|---|---|
| RCF V | 337,669,237 Shares<br>41.7% | 337,669,237 Shares<br>31.21% |
| RCF VI and Annex Fund | - | 272,034,820 Shares<br>25.15% |
| Total aggregate interest | 41.7% | 609,704,057 Shares<br>56.36% |

**Notes:**

1. Assumes RCF V, RCF VI and Annex Fund are Associates of one another.
2. Assumes the Company issues subscription requests under the Standby Subscription Facility in respect of 272,034,820 Shares, being the Maximum Subscription Amount of £25,000,000 where Shares are issued at 9.19 pence per Share. For the avoidance of doubt, if the Company was to issue Shares through an equity investment to a third party for less than 9.19 pence per Share, the maximum number of Shares which could be issued to RCF VI (or its nominee) would not change, though the Maximum Subscription Amount would be reduced. See section 1.3.
3. Assumes no other Shares are issued to any entity other than under the Standby Subscription Facility.

## 2.3 Further background information on Resource Capital Funds

Resource Capital Funds (**RCF** or the **Funds**) is a group of commonly managed private equity funds established in 1998 with a mining sector specific investment mandate spanning all hard mineral commodities and geographic regions. The Funds are managed by RCF Management L.L.C. which has its principal office in Denver and additional offices in Perth, New York (Long Island) and Toronto.

RCF has experience in building management teams specifically suited to develop and/or operate assets and has the resources and networks to draw upon to source top talent from around the world. In addition to providing financing, RCF has the in-house technical and financial expertise to actively guide a mining company's management team through the process of raising capital in the public equity and project financing markets. RCF's management team consists of individuals with extensive commercial and technical experience in the mining industry.

Since inception, Resource Capital Funds have provided financial support to 148 mining companies (and several mining-services companies) involving projects located in 47 countries and relating to 29 commodities.

The Funds' committed capital is sourced primarily from US-based institutional investors. The sixth fund, RCF VI, with committed capital of $2.04 billion, is now being invested.

Annex Fund is in the process of being established and, once established, will be under common ownership and control with RCF V.

Further information about Resource Capital Funds is available at **www.resourcecapitalfunds.com.**

As detailed in section 1.2, the issue of the Subscription Shares pursuant to the Standby Subscription Facility is conditional upon various matters, including Shareholders approving Resolution 1. Resolution 1 seeks Shareholder approval for the issue of the Subscription Shares and resulting increase of the voting power of the RCF Associates (as set out in section 2.2).

### 2.4 RCF Associates' intentions in relation to the Company

The RCF Associates have informed the Board that as at the date of this Notice of Meeting they do not currently intend to:

(a) make any significant changes to the Company's business;

(b) inject further capital into the Company, although they may consider doing do so if requested by the Company;

(c) change the Company's employment arrangements;

(d) transfer any property between the Company, the RCF Associates nor any person associated with the RCF Associates;

(e) redeploy any of the Company's fixed assets; nor

(f) change the Company's existing policies in relation to financial matters or dividends in a manner that may be detrimental to non-associated Shareholders.

### 2.5 ASX Listing Rule 10.11

ASX Listing Rule 10.11 also requires shareholder approval to be obtained where an entity issues, or agrees to issue, securities to a related party, or a person whose relationship with the entity or a related party is, in ASX's opinion, such that approval should be obtained unless an exception in ASX Listing Rule 10.12 applies.

While the Company does not consider that RCF VI or Annex Fund is a related party, as RCF V holds a relevant interest in greater than 40% of the Company's issued Shares, ASX has previously exercised its discretion under ASX Listing Rule 10.11.2 and deemed that RCF V is an entity for whom approval under ASX Listing Rule 10.11 should be obtained for an issue of Shares. Consequently, as an associate of RCF V, approval

under ASX Listing Rule 10.11 should also be obtained for an issue of Shares to RCF VI and Annex Fund.

As the Standby Subscription Facility requires that the Subscription Shares are issued to RCF VI and Annex Fund, Shareholder approval pursuant to ASX Listing Rule 10.11 is required unless an exception applies. It is the view of the Directors that the exceptions set out in ASX Listing Rule 10.12 do not apply in the current circumstances.

### 2.6 ASX waivers

ASX Listing Rule 10.13.3 requires that the Subscription Shares to be issued pursuant to Resolution 1 be issued by a date which is not more than 1 month after the date of the Meeting. .

ASX Listing Rule 10.13.5 requires that the Issue Price, as well as the terms of issue of the Subscription Shares be set out in the Notice. As the Issue Price may reduce where there is an equity investment in the Company during the Availability Period at a lower price than 9.19 pence per Share, in which case the Issue Price for subsequent tranches of Subscription Shares pursuant to the Standby Subscription Facility will be at that lower price, the Issue Price is not able to be categorically ascertained as at the date of this Notice.

As announced to the market on 21 March 2016, the Company has been granted a waiver of ASX Listing Rule 10.13.3 to enable the Subscription Shares to be issued at any time during the Availability Period and a waiver of ASX Listing Rule 10.13.5 to enable the Notice to contain the issue price based on the disclosure contained in this Notice.

### 2.7 Technical Information required by ASX Listing Rule 10.13

Pursuant to and in accordance with ASX Listing Rule 10.13, the following information is provided in relation to Resolution 1 and the issue of the Subscription Shares to RCF VI and Annex Fund:

(a) the Subscription Shares will be issued to RCF VI and Annex Fund (or an Affiliate);

(b) the total maximum number of Subscription Shares to be issued to RCF VI and Annex Fund shall be calculated as follows:

  (i) RCF VI will subscribe (or procure that Annex Fund or an Affiliate subscribes) for such number of Shares at an issue price of 9.19 pence to raise up to £25,000,000. This equates to a maximum number of 272,034,820 Shares[5].

(c) as noted above, the Company has applied for a waiver of ASX Listing Rule 10.13.3 to enable the Subscription Shares to be issued at any time during the Availability Period which is outside of the 1 month period required by ASX Listing Rule 10.13.3. The Subscription Shares will be issued no later than the date permitted by the ASX waiver, if granted;

(d) as noted above, the Company has applied for a waiver of ASX Listing Rule 10.13.5 to enable the Notice not to state an issue price for the Subscription Shares, given the Issue Price may change after the date of the shareholder approval sought by this Notice;

[5] Based on an Issue Price of 9.19 pence per Share and Maximum Subscription Amount of £25,000,000. The Maximum Subscription Amount may be less than £25,000,000 and the Issue Price may be less than 9.19 pence per Share. See section 1.3.

(e) approval is required under ASX Listing Rule 10.11 as a result of ASX exercising its discretion under ASX Listing Rule 10.11.2 (as further explained in section 2.5);

(f) the issue price of the Subscription Shares will be calculated in accordance with section 2.7(b);

(g) the Subscription Shares issued will be fully paid ordinary shares in the capital of the Company issued on the same terms and conditions as the Company's existing Shares; and

(h) the funds raised will be used for the purposes as set out in section 1.3.

### 2.8 ASX Listing Rule 7.1

Approval pursuant to ASX Listing Rules 7.1 and 7.1A is not required for the issue of the Subscription Shares as approval is being obtained under ASX Listing Rule 10.11 and section 611, item 7 of the Corporations Act. Accordingly, the issue of Shares to RCF VI, Annex Fund (or an Affiliate) will not be included in the use of the Company's annual placement capacity pursuant to ASX Listing Rules 7.1 and 7.1A.

### 2.9 Directors' recommendation

The Directors (other than Mr Chris Corbett, who has abstained given his role as an employee of Resource Capital Funds Management Pty Ltd, a wholly owned subsidiary of RCF Management L.L.C., which has a management agreement with RCF V and RCF VI) recommend that Shareholders vote in favour of Resolution 1 as they are unanimously of the view that:

(a) the issue of the Subscription Shares to RCF VI, Annex Fund or an Affiliate and the raising of up to £25,000,000 as a result of the issue will assist in supporting operations at the processing plant at Drakelands, facilitate the Company's debt repayments, and allow the Company to obtain certain waivers and amendments in the Senior Facility Documents, as contained the Waiver and Variation Deed;

(b) alternative sources of finance have been canvassed, and ultimately the terms of the Standby Subscription Facility were the most attractive;

(c) the participation by RCF VI, Annex Fund or an Affiliate confirms the support of an existing major Shareholder (RCF V) and provides a key source of funding to realise the long term goals of the Company; and

(d) if Shareholders do not vote in favour of Resolution 1, the conditions in the Waiver and Variation Deed will not be satisfied and the Company would need to seek alternative sources of finance and obtain waivers of, and amendments to the Senior Facility Documents, which may take some time and may result in delays to the ramp-up of the processing plant at Drakelands, and impact the Company's ability to meet its debt repayments.

The proposed issue of Shares under the Standby Subscription Facility will result in various advantages and disadvantages to the Company which Shareholders should consider prior to exercising their vote. The advantages and the disadvantages of passing Resolution 1, and the implications of Shareholders not voting in favour of Resolution 1, are further set out in section 13 of the Independent Expert's Report.

## GLOSSARY

**£** means pounds sterling, the lawful currency of the United Kingdom of Great Britain and Northern Ireland.

**A$** means Australian dollars, the lawful currency of the Commonwealth of Australia.

**Affiliate** means in respect of a person (**Primary Person**), a person:

(a) Controlled directly or indirectly by the Primary Person;

(b) Controlling directly or indirectly the Primary Person;

(c) directly or indirectly Controlled by a person who Controls the Primary Person (whether alone or with any of its Associates); or

(d) directly or indirectly under the common Control of the Primary Person and any of the Primary Person's Associates.

**Annex Fund** means RCF V Annex Fund L.P., a Cayman Islands exempted limited partnership to be established by certain limited partners of RCF V.

**ASIC** means the Australian Securities & Investments Commission.

**Associate** means in respect of a person (**Primary Person**), a person with whom the Primary Person:

(a) has, or proposes to enter into, a relevant agreement for the purpose of controlling or influencing the composition of one or more companies' boards of directors or the conduct of an entity's affairs; or

(b) is acting, or proposing to act, in concert in relation to the conduct of an entity's affairs.

**ASX** means ASX Limited (ACN 008 624 691) or the financial market operated by ASX Limited, as the context requires.

**ASX Listing Rules** means the Listing Rules of ASX.

**BDO** means BDO Corporate Finance (WA) Pty Ltd.

**Board** means the current board of directors of the Company.

**Chair** means the chair of the Meeting.

**Company** means Wolf Minerals Limited (ACN 121 831 472).

**Control** with respect to any person (other than an individual) means the possession, directly or indirectly, of the power to direct or cause the direction of the financial and operating policies of such person, whether through the ownership of voting securities, by agreement or otherwise, and includes the following:

(a) direct or indirect ownership of more than 50% of the voting rights of such person; or

(b) the right (whether alone or with any of its Associates) to appoint the majority of the members of the board of directors of such person (or similar governing body) or to manage on a discretionary basis the assets of such person,

and, for the avoidance of doubt, a general partner is deemed to Control a limited partnership of which it is the general partner and, solely for the purposes of this Notice, a fund advised or managed directly or indirectly by a person will also be deemed to be Controlled by such person.

**Corporations Act** means the *Corporations Act 2001* (Cth).

**Directors** means the current directors of the Company.

**Explanatory Statement** means the explanatory statement accompanying the Notice.

**General Meeting** or **Meeting** means the meeting convened by the Notice.

**Notice** or **Notice of Meeting** means this notice of meeting including the Explanatory Statement and the Proxy Form.

**Proxy Form** means the proxy form accompanying the Notice.

**RCF** means Resource Capital Funds, a group of private equity funds managed by RCF Management L.L.C..

**RCF Associates** means RCF V, RCF VI, Annex Fund and any Affiliate of those entities.

**RCF V** means Resource Capital Fund V L.P..

**RCF VI** means Resource Capital Fund VI L.P..

**Resolution** means the resolution set out in the Notice.

**Security Trust and Intercreditor Deed** means the Security Trust and Intercreditor Deed dated 10 May 2013 between the Company, Wolf UK, Unicredit Bank AG, London Branch, Caterpillar Financial SARL, Wolfram Bergbau und Hütten AG, Global Tungsten & Powders Corp., Fund V and others.

**Senior Facility Agreement** means the Senior Facility Agreement relating to the Hemerdon tungsten and tin project dated 10 May 2013 between, amongst others, the Company, Wolf UK (as borrower), Unicredit Bank AG, London Branch (as facility agent, security trustee, account bank and UFK agent), ING Bank N.V. (as technical agent) and others as lenders.

**Senior Facility Documents** means the Senior Facility Agreement, the Security Trust and Intercreditor Deed and each of the "Finance Documents" (as that term is defined in the Security Trust and Intercreditor Deed).

**Senior Lenders** means the lenders from time to time under the Senior Facility Agreement.

**Share** means a fully paid ordinary share in the capital of the Company.

**Shareholder** means a registered holder of a Share.

**Standby Subscription Facility** has the meaning given to that term in section 1.2.

**Subscription Shares** means those Shares the subject of subscription by RCF VI, Annex Fund or an Affiliate pursuant to the Standby Subscription Facility.

**Waiver and Variation Deed** has the meaning given to that term in section 1.2.

**WST** means Western Standard Time as observed in Perth, Western Australia.

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# APPOINTMENT OF PROXY FORM

**WOLF MINERALS LIMITED**
**ACN 121 831 472**

## GENERAL MEETING

I/We _____

of: _____

being a Shareholder entitled to attend and vote at the Meeting, hereby appoint:

Name: _____

**OR:** ☐ the Chair of the Meeting as my/our proxy.

or failing the person so named or, if no person is named, the Chair, or the Chair's nominee, to vote in accordance with the following directions, or, if no directions have been given, and subject to the relevant laws as the proxy sees fit, at the Meeting to be held at 9:00 a.m. (WST), on Friday 22 April 2016 at The Celtic Club, 48 Ord Street, West Perth, Western Australia 6005, and at any adjournment thereof.

**The Chair intends to vote undirected proxies in favour of all Resolutions in which the Chair is entitled to vote.**

---

| **Voting on business of the Meeting** | | **FOR** | **AGAINST** | **ABSTAIN** |
|---|---|---|---|---|
| Resolution 1 | Approval of issue of Shares to RCF VI, Annex Fund or an Affiliate and increase in the relevant interest of the RCF Associates | ☐ | ☐ | ☐ |

**Please note**: If you mark the abstain box for a particular Resolution, you are directing your proxy not to vote on that Resolution on a show of hands or on a poll and your votes will not be counted in computing the required majority on a poll.

**If two proxies are being appointed, the proportion of voting rights this proxy represents is:** _____ **%**

**Signature of Shareholder(s):**

| **Individual or Shareholder 1** | **Shareholder 2** | **Shareholder 3** |
|---|---|---|
| | | |
| Sole Director/Company Secretary | Director | Director/Company Secretary |

**Date:** _____

**Contact name:** _____ **Contact ph (daytime):** _____

**E-mail address:** _____ **Consent for contact by e-mail:** **YES** ☐ **NO** ☐

## Instructions for Completing 'Appointment of Proxy' Form

1. (**Appointing a proxy**): A Shareholder entitled to attend and cast a vote at the Meeting is entitled to appoint a proxy to attend and vote on their behalf at the Meeting. If a Shareholder is entitled to cast 2 or more votes at the Meeting, the Shareholder may appoint a second proxy to attend and vote on their behalf at the Meeting. However, where both proxies attend the Meeting, voting may only be exercised on a poll. The appointment of a second proxy must be done on a separate copy of the Proxy Form. A Shareholder who appoints 2 proxies may specify the proportion or number of votes each proxy is appointed to exercise. If a Shareholder appoints 2 proxies and the appointments do not specify the proportion or number of the Shareholder's votes each proxy is appointed to exercise, each proxy may exercise one-half of the votes. Any fractions of votes resulting from the application of these principles will be disregarded. A duly appointed proxy need not be a Shareholder.

2. (**Direction to vote**): A Shareholder may direct a proxy how to vote by marking one of the boxes opposite each item of business. The direction may specify the proportion or number of votes that the proxy may exercise by writing the percentage or number of Shares next to the box marked for the relevant item of business. Where a box is not marked the proxy may vote as they choose subject to the relevant laws. Where more than one box is marked on an item the vote will be invalid on that item.

3. (**Signing instructions**):

   - (**Individual**): Where the holding is in one name, the Shareholder must sign.
   - (**Joint holding**): Where the holding is in more than one name, all of the Shareholders should sign.
   - (**Power of attorney**): If you have not already provided the power of attorney with the registry, please attach a certified photocopy of the power of attorney to this Proxy Form when you return it.
   - (**Companies**): Where the company has a sole director who is also the sole company secretary, that person must sign. Where the company (pursuant to Section 204A of the Corporations Act) does not have a company secretary, a sole director can also sign alone. Otherwise, a director jointly with either another director or a company secretary must sign. Please sign in the appropriate place to indicate the office held. In addition, if a representative of a company is appointed pursuant to Section 250D of the Corporations Act to attend the Meeting, the documentation evidencing such appointment should be produced prior to admission to the Meeting. A form of a certificate evidencing the appointment may be obtained from the Company.

4. (**Attending the Meeting**): Completion of a Proxy Form will not prevent individual Shareholders from attending the Meeting in person if they wish. Where a Shareholder completes and lodges a valid Proxy Form and attends the Meeting in person, then the proxy's authority to speak and vote for that Shareholder is suspended while the Shareholder is present at the Meeting.

5. (**Return of Proxy Form**): To vote by proxy, please complete and sign the enclosed Proxy Form and return by:

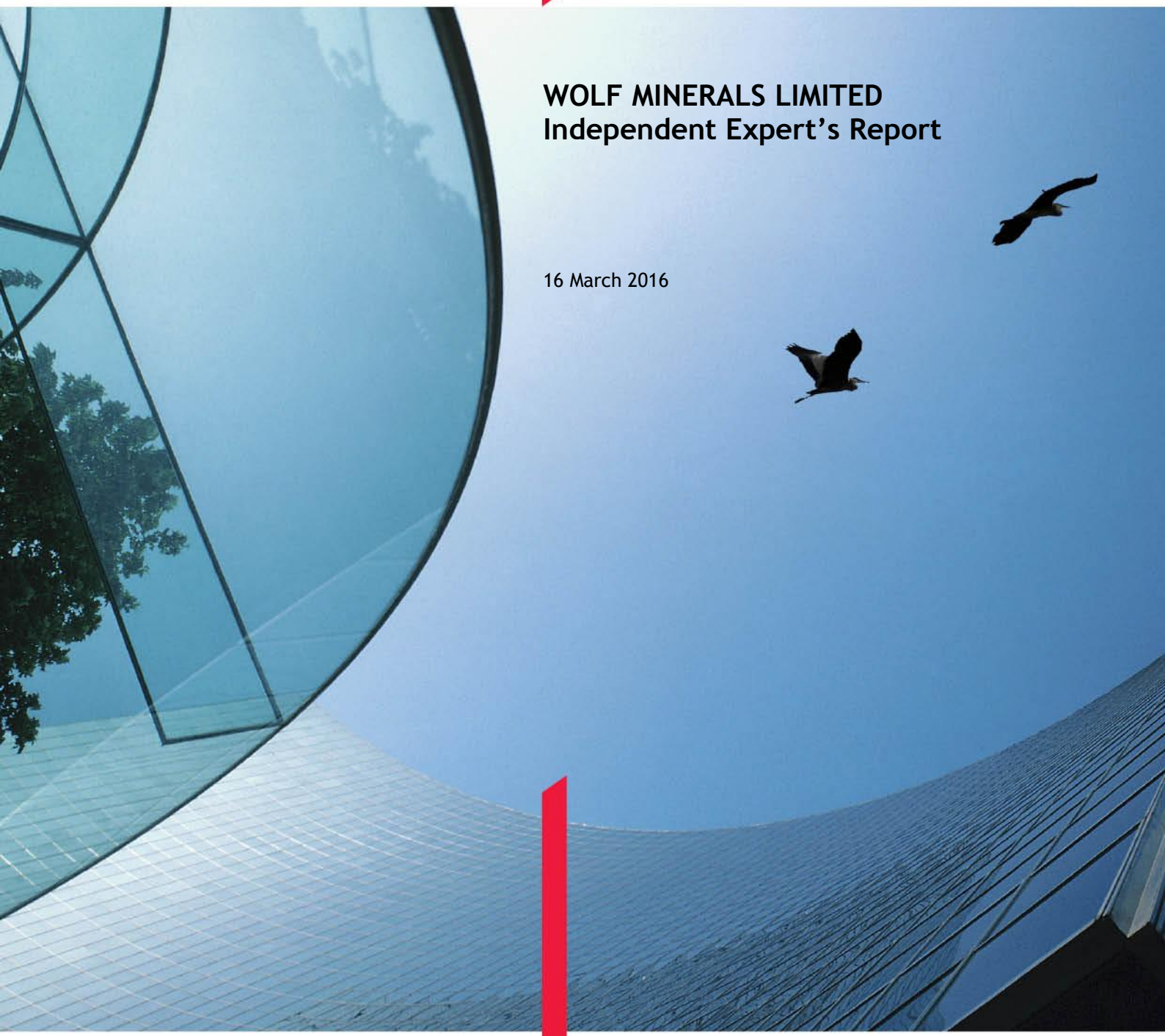
   (a) post to Wolf Minerals Limited, PO Box 2182, Subiaco, WA 6008; or

   (b) facsimile to the Company on facsimile number +61 8 6316 3357; or

   (c) email to the Company at admin@wolfminerals.com.au,

   so that it is received not less than 48 hours prior to commencement of the Meeting.

   **Proxy Forms received later than this time will be invalid.**



# WOLF MINERALS LIMITED
# Independent Expert's Report

16 March 2016

# Financial Services Guide

16 March 2016

**BDO Corporate Finance (WA) Pty Ltd** ABN 27 124 031 045 (**'we'** or **'us'** or **'ours'** as appropriate) has been engaged by Wolf Minerals Limited (**'Wolf'**) to provide an independent expert's report on the proposal for Resource Capital Fund VI LP to subscribe for Wolf shares to raise up to £25 million (or A$50.5 million). You will be provided with a copy of our report as a retail client because you are a shareholder of Wolf.

**Financial Services Guide**
In the above circumstances we are required to issue to you, as a retail client, a Financial Services Guide (**'FSG'**). This FSG is designed to help retail clients make a decision as to their use of the general financial product advice and to ensure that we comply with our obligations as financial services licensees.

This FSG includes information about:

- Who we are and how we can be contacted;
- The services we are authorised to provide under our Australian Financial Services Licence, Licence No. 316158;
- Remuneration that we and/or our staff and any associates receive in connection with the general financial product advice;
- Any relevant associations or relationships we have; and
- Our internal and external complaints handling procedures and how you may access them.

**Information about us**
BDO Corporate Finance (WA) Pty Ltd is a member firm of the BDO network in Australia, a national association of separate entities (each of which has appointed BDO (Australia) Limited ACN 050 110 275 to represent it in BDO International). The financial product advice in our report is provided by BDO Corporate Finance (WA) Pty Ltd and not by BDO or its related entities. BDO and its related entities provide services primarily in the areas of audit, tax, consulting and financial advisory services.

We do not have any formal associations or relationships with any entities that are issuers of financial products. However, you should note that we and BDO (and its related entities) might from time to time provide professional services to financial product issuers in the ordinary course of business.

**Financial services we are licensed to provide**
We hold an Australian Financial Services Licence that authorises us to provide general financial product advice for securities to retail and wholesale clients.

When we provide the authorised financial services we are engaged to provide expert reports in connection with the financial product of another person. Our reports indicate who has engaged us and the nature of the report we have been engaged to provide. When we provide the authorised services we are not acting for you.

**General Financial Product Advice**
We only provide general financial product advice, not personal financial product advice. Our report does not take into account your personal objectives, financial situation or needs. You should consider the appropriateness of this general advice having regard to your own objectives, financial situation and needs before you act on the advice.

**Fees, commissions and other benefits that we may receive**
We charge fees for providing reports, including this report. These fees are negotiated and agreed with the person who engages us to provide the report. Fees are agreed on an hourly basis or as a fixed amount depending on the terms of the agreement. The fee payable to BDO Corporate Finance (WA) Pty Ltd for this engagement is approximately $55,000.

Except for the fees referred to above, neither BDO, nor any of its directors, employees or related entities, receive any pecuniary benefit or other benefit, directly or indirectly, for or in connection with the provision of the report.

**Other Assignments**
In January 2014, we were engaged to prepare an independent expert's report for Wolf in relation to its proposal to issue Wolf shares to RCF and Todd to raise up to £99.2 million (or approximately A$182.6 million). Our fees for this engagement amounted to $70,000.

**Remuneration or other benefits received by our employees**
All our employees receive a salary. Our employees are eligible for bonuses based on overall productivity but not directly in connection with any engagement for the provision of a report. We have received a fee from Wolf for our professional services in providing this report. That fee is not linked in any way with our opinion as expressed in this report.

**Referrals**
We do not pay commissions or provide any other benefits to any person for referring customers to us in connection with the reports that we are licensed to provide.

**Complaints resolution**
*Internal complaints resolution process*
As the holder of an Australian Financial Services Licence, we are required to have a system for handling complaints from persons to whom we provide financial product advice. All complaints must be in writing addressed to The Complaints Officer, BDO Corporate Finance (WA) Pty Ltd, PO Box 700 West Perth WA 6872.

When we receive a written complaint we will record the complaint, acknowledge receipt of the complaint within 15 days and investigate the issues raised. As soon as practical, and not more than **45 days** after receiving the written complaint, we will advise the complainant in writing of our determination.

**Referral to External Dispute Resolution Scheme**
A complainant not satisfied with the outcome of the above process, or our determination, has the right to refer the matter to the Financial Ombudsman Service (**'FOS'**). FOS is an independent organisation that has been established to provide free advice and assistance to consumers to help in resolving complaints relating to the financial service industry. FOS will be able to advise you as to whether or not they can be of assistance in this matter. Our FOS Membership Number is 12561. Further details about FOS are available at the FOS website www.fos.org.au or by contacting them directly via the details set out below.

Financial Ombudsman Service
GPO Box 3
Melbourne VIC 3001
Toll free: 1300 78 08 08
Facsimile: (03) 9613 6399
Email: info@fos.org.au

**Contact details**
You may contact us using the details set out on page 1 of the accompanying report.

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Fax: +61 8 6382 4601
www.bdo.com.au

38 Station Street
Subiaco, WA 6008
PO Box 700 West Perth WA 6872
Australia

16 March 2016

The Directors
Wolf Minerals Limited
Suite 25, Level 3
22 Railway Road
SUBIACO WA 6008

Dear Directors

# INDEPENDENT EXPERT'S REPORT

## 1. Introduction

On 29 January 2016, Wolf Minerals Limited ('**Wolf**' or '**the Company**') announced the proposal for Resource Capital Fund VI LP, an associate of Wolf's largest shareholder, Resource Capital Fund V LP, to subscribe for shares in Wolf to raise up to £25 million (or A$50.5 million) ('**the Proposed Transaction**').

For the purpose of this report, Resource Capital Fund VI LP and Resource Capital Fund V LP are collectively referred to as '**RCF**'.

Resource Capital Fund V LP currently holds 41.70% of the issued capital of Wolf. The proposed subscription of Wolf shares by Resource Capital Fund VI LP will result in RCF increasing its shareholding in Wolf such that the Proposed Transaction requires the approval by the non-associated shareholders of Wolf ('**Shareholders**').

All dollar amounts are in Australian dollars ('**A$**' or '**AUD**') unless otherwise indicated.

## 2. Summary and Opinion

### 2.1 Purpose of the report

The directors of Wolf have requested that BDO Corporate Finance (WA) Pty Ltd ('**BDO**') prepare an independent expert's report ('**our Report**') to express an opinion as to whether or not the Proposed Transaction is fair and reasonable to Shareholders.

Our Report is prepared pursuant to section 611 of the Corporations Act 2001 Cth ('**Corporations Act**' or '**the Act**') and is to be included in the Explanatory Memorandum and Notice of Meeting document ('**Notice of Meeting**') for Wolf in order to assist Shareholders in their decision whether to approve the Proposed Transaction.

## 2.2 Approach

Our Report has been prepared having regard to Australian Securities and Investments Commission ('**ASIC**') Regulatory Guide 74 'Acquisitions Approved by Members' ('**RG 74**'), Regulatory Guide 111 'Content of Expert's Reports' ('**RG 111**') and Regulatory Guide 112 'Independence of Experts' ('**RG 112**').

In arriving at our opinion, we have assessed the terms of the Proposed Transaction as outlined in the body of this report. We have considered:

- how the value of a Wolf share prior to the Proposed Transaction on a control basis compares to the value of a Wolf share following the Proposed Transaction on a minority basis;
- the likelihood of a superior alternative offer being available to Wolf;
- other factors which we consider to be relevant to the Shareholders in their assessment of the Proposed Transaction; and
- the position of Shareholders should the Proposed Transaction not proceed.

## 2.3 Opinion

We have considered the terms of the Proposed Transaction as outlined in the body of this report and have concluded that, in the absence of a superior proposal, the Proposed Transaction is not fair but reasonable to Shareholders.

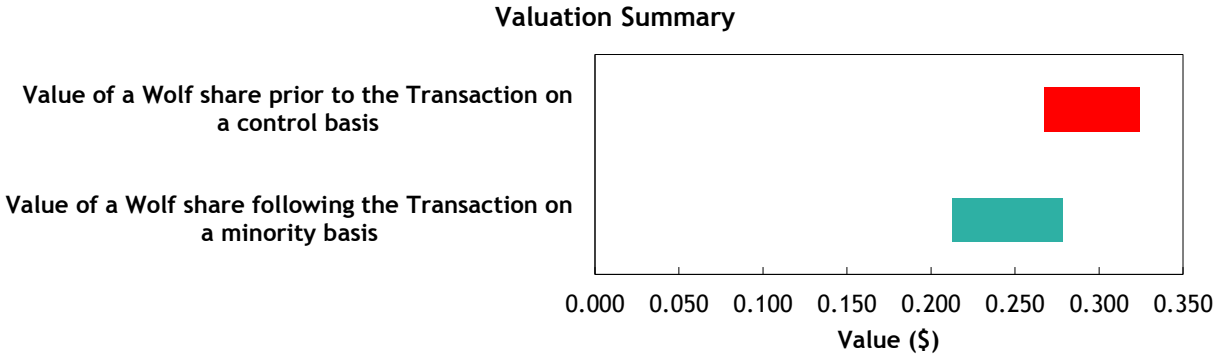
## 2.4 Fairness

The value of a Wolf share if the Proposed Transaction is not approved on a control basis and the value of a Wolf share if the Proposed Transaction is approved on a minority interest basis are compared below.

| | Ref | Low<br>$ | Preferred<br>$ | High<br>$ |
|---|---|---|---|---|
| Value of a Wolf share if the Proposed Transaction is not approved on a control basis | 10.11 | 0.268 | 0.296 | 0.324 |
| Value of a Wolf share if the Proposed Transaction is approved on a minority basis | 11.1 | 0.213 | 0.245 | 0.278 |

**Source:** BDO analysis

The above valuation ranges are graphically presented below:




**Source**: BDO analysis

The above pricing indicates that, in the absence of any other relevant information and/or a superior proposal, the Proposed Transaction is not fair for Shareholders.

## 2.5 Reasonableness

We have considered the analysis in section 13 of this report, in terms of both:

- advantages and disadvantages of the Proposed Transaction; and
- other considerations, including the position of Shareholders if the Proposed Transaction does not proceed and the consequences of not approving the Proposed Transaction.

In our opinion, the position of Shareholders if the Proposed Transaction is approved is more advantageous than the position if the Proposed Transaction is not approved. Accordingly, in the absence of any other relevant information and/or a superior proposal, we believe that the Proposed Transaction is reasonable for Shareholders.

The respective advantages and disadvantages considered are summarised below:

| ADVANTAGES AND DISADVANTAGES | | | |
|---|---|---|---|
| Section | Advantages | Section | Disadvantages |
| 13.1.1 | The minority interest value of a Wolf share if the Proposed Transaction is approved is higher than the minority interest value of a Wolf share if the Proposed Transaction is not approved | 13.2.1 | The Proposed Transaction is not fair for Shareholders |
| 13.1.2 | The Proposed Transaction will provide the required funding for Wolf to ramp up its Hemerdon Project and to facilitate the Company's debt repayments | 13.2.2 | Shareholders' interests in the Company will be diluted |
| 13.1.3 | The Proposed Transaction will strengthen Wolf's relationship with its cornerstone investor, RCF | 13.2.3 | Increased presence of a significant controlling shareholder may reduce the attractiveness of the Company's shares to potential investors |
| 13.1.4 | The Proposed Transaction will provide the required funds of £25 million to satisfy the condition of the Waiver and Variation Deed (hereinafter defined) | | |
| 13.1.5 | Strengthens Wolf's balance sheet as gearing is reduced with the injection of equity funding | | |
| 13.1.6 | Wolf's market capitalisation may increase | | |

Other key matters we have considered include:

| Section | Description |
|---|---|
| 13.3.1 | Alternative proposals |
| 13.3.2 | Practical level of control |
| 13.3.3 | The Proposed Funding is unlikely to deter a takeover offer being received in the future |
| 13.3.4 | Consequences of not approving the Proposed Transaction |
| 13.3.5 | No change to the composition of the Wolf Board |

# 3. Scope of the Report

## 3.1 Purpose of the Report

Section 606 of the Corporations Act ('**Section 606**') expressly prohibits the acquisition of further shares by a party who already holds (with associates) more than 20% of the issued shares of a public company, unless an exception under Section 611 of the Corporations Act (**'Section 611'**) is established. The Proposed Transaction is a control transaction that is covered by Section 606 because, as at the date of our Report, Resource Capital Fund V LP holds 41.70% of the issued capital of Wolf.

Section 611 permits such an acquisition if the shareholders of that entity have agreed to the issue of such shares. This agreement must be by resolution passed at a general meeting at which no votes are cast in favour of the resolution by any party who is associated with the party acquiring the shares, or by the party acquiring the shares. Section 611 states that shareholders of the company must be given all information that is material to the decision on how to vote at the meeting.

Pursuant to the Proposed Transaction, the Company is seeking Shareholders' approval for RCF to increase its shareholding through the subscription of shares in Wolf to raise up to £25 million (or A$50.5 million). The issue of Wolf shares under the Proposed Transaction may result in RCF holding up to 56.36% of the issued capital of Wolf.

RG 74 states that the obligation to supply shareholders with all information that is material can be satisfied by the non-associated directors of Wolf, by either:

- undertaking a detailed examination of the Proposed Transaction themselves, if they consider that they have sufficient expertise; or
- by commissioning an Independent Expert's Report.

The directors of Wolf have commissioned this Independent Expert's Report to satisfy this obligation.

## 3.2 Regulatory guidance

Neither the Listing Rules nor the Corporations Act defines the meaning of 'fair and reasonable'. In determining whether the Proposed Transaction is fair and reasonable, we have had regard to the views expressed by ASIC in RG 111. This regulatory guide provides guidance as to what matters an independent expert should consider to assist security holders to make informed decisions about transactions.

This regulatory guide suggests that where the transaction is a control transaction, the expert should focus on the substance of the control transaction rather than the legal mechanism to affect it. RG 111 suggests that where a transaction is a control transaction, it should be analysed on a basis consistent with a takeover bid.

In our opinion, the Proposed Transaction is a control transaction as defined by RG 111 and we have therefore assessed the Proposed Transaction as a control transaction to consider whether, in our opinion, it is fair and reasonable to Shareholders.

## 3.3 Adopted basis of evaluation

RG 111 states that a transaction is fair if the value of the offer price or consideration is greater than the value of the securities subject of the offer. This comparison should be made assuming a knowledgeable and willing, but not anxious, buyer and a knowledgeable and willing, but not anxious, seller acting at arm's length. When considering the value of the securities subject of the offer in a control transaction the

expert should consider this value inclusive of a control premium. Further to this, RG 111 states that a transaction is reasonable if it is fair. It might also be reasonable if despite being 'not fair' the expert believes that there are sufficient reasons for security holders to accept the offer in the absence of any higher bid.

Having regard to the above, BDO has completed this comparison in two parts:

- a comparison between the value of a Wolf share if the Proposed Transaction is not approved on a control basis and the value of a Wolf share if the Proposed Transaction is approved on a minority basis (fairness – see Section 12 'Is the Proposed Transaction Fair?'); and
- an investigation into other significant factors to which Shareholders might give consideration, prior to approving the resolution, after reference to the value derived above (reasonableness – see Section 13 'Is the Proposed Transaction Reasonable?').

### 3.4 APES 225 compliance

This assignment is a Valuation Engagement as defined by Accounting Professional & Ethical Standards Board professional standard APES 225 'Valuation Services' ('**APES 225**').

A Valuation Engagement is defined by APES 225 as follows:

*'an Engagement or Assignment to perform a Valuation and provide a Valuation Report where the Valuer is free to employ the Valuation Approaches, Valuation Methods, and Valuation Procedures that a reasonable and informed third party would perform taking into consideration all the specific facts and circumstances of the Engagement or Assignment available to the Valuer at that time.'*

This Valuation Engagement has been undertaken in accordance with the requirements set out in APES 225.

## 4. Outline of the Proposed Transaction

### 4.1 The Proposed Transaction

On 29 January 2016, Wolf announced the proposal for Resource Capital Fund VI LP to subscribe for shares in Wolf to raise up to £25 million (or A$50.5 million). Under the Proposed Transaction, Resource Capital Fund VI LP offers to subscribe, or procure the subscription by one or more associated nominees, for up to 272,034,820 shares at an issue price of 9.19 pence per share (approximately A$0.19) to raise up to £25,000,000 (A$50.5 million). The subscription offer is available for a six-month period at the same issue price, subject to a minimum amount of £2,500,000 for each subscription.

Each tranche of shares issued to Resource Capital Fund VI LP will be at 9.19 pence unless there is any third party equity investment in the Company during the six-month period at a lower price than 9.19 pence per share. In which case, the issue price for subsequent tranches will be at that lower price.

#### Conditions Precedent

The completion of the Proposed Transaction is subject to satisfying, but not limited to, the following conditions on or before 30 April 2016 or such a later date as agreed by Resource Capital Fund VI LP:

- execution of definitive documentation to effect the Proposed Transaction;
- receipt of all necessary government and regulatory approvals, consents, waivers and exemptions, including FIRB approval (if required);

- all approvals of the Company's shareholders considered necessary, and in a form approved by Resource Capital Fund VI LP; and
- the senior lenders under the Senior Facility Agreement relating to the Hemerdon Tungsten and Tin Project dated 10 May 2013 ('**Senior Facility Agreement**') agreeing to provide waivers of, and amendment to, the Senior Facility Agreement and the Security Trust and Intercreditor Deed ('**Senior Facility Documents**') to grant relief up to 31 March 2017 from financial and other covenants ('**Waiver and Variation Deed**').

### 4.2 Shareholding in Wolf following the Proposed Transaction

The table below shows the maximum voting power of RCF if the Proposed Transaction is approved.

| | RCF | Other Shareholders | Total |
|---|---|---|---|
| **Existing shareholding:** | | | |
| Issued shares as at the date of our Report | 337,669,237 | 472,055,523 | 809,724,760 |
| % holdings as at the date of our Report | 41.70% | 58.30% | 100.00% |
| | | | |
| **Maximum shares to be issued under the Proposed Transaction** | | | |
| Shares issued to Resource Capital Fund VI LP | 272,034,820 | - | 272,034,820 |
| **Maximum number of shares after the Proposed Transaction** | 609,704,057 | 472,055,523 | 1,081,759,580 |
| Maximum shareholding % | 56.36% | 43.64% | 100.00% |

**Source:** BDO analysis

The number of shares to be issued to Resource Capital Fund VI LP is based on an issue price of 9.19 pence per share (approximately A$0.19) based on the Great British Pounds ('**GBP**' or '**£**') to Australian dollar exchange rate of 1 GBP:2.02 AUD as at 28 January 2016.

The table above shows that the Proposed Transaction may result in the dilution of the shareholding of Shareholders from 58.30% to 43.64%.

## 5. Profile of Wolf

### 5.1 History

Wolf is a specialty metals company operating in the United Kingdom with its Australian head office located in Subiaco, Western Australia. Wolf's primary focus is the operation of the Drakelands Mine ('**Drakelands**') at the Hemerdon Tungsten and Tin Project ('**the Hemerdon Project**' or '**the Project**'), located in Devon, in the southwest of the United Kingdom. Wolf listed on the Australian Securities Exchange ('**ASX**') on 15 February 2007 following the issue of 15,000,000 shares at an issue price of $0.20 each to raise $3,000,000 before costs, and later listed on the London Stock Exchange's Alternative Investment Market ('**AIM**') in November 2011.

The Company's current board members and senior management are shown below:

- Mr John Hopkins – Non-Executive Chairman, Australia based
- Mr Michael Wolley – Non-Executive Director, Australia based
- Mr Chris Corbett – Non-Executive Director, Australia based

- Mr Ronald Beevor – Non-Executive Director, Australia based
- Mr Nick Clarke – Non-Executive Director, United Kingdom based
- Mr Don Newport – Non-Executive Director, United Kingdom based
- Mr Russell Clark – Executive Managing Director, Australia based
- Mr Richard Lucas – Chief Financial Officer and Joint Company Secretary, Australia based
- Ms Pauline Carr - Joint Company Secretary, Australia based

The Company's most recent capital raising was completed on 6 June 2014, in which Wolf raised $222,600 through the issue of 742,000 shares at $0.30 per share. The funds raised were used in the development of the Hemerdon Project, and ongoing working capital requirements.

## Hemerdon Tungsten and Tin Project

The Hemerdon Project is located near Plymouth in Devon, in the southwest of the United Kingdom and is one of only two mines outside China with production capacity greater than 3,000 tonnes per annum of tungsten concentrate.

Wolf acquired the Hemerdon Project in December 2007 by signing a 40-year option and lease arrangement for the mineral rights and rights to mine at Drakelands. Wolf exercised the option in February 2014 and commenced site construction activities under the planning permission for mining until 2021.

In March 2013, the engineering, procurement and construction contract (**'EPC contract'**) for £75 million was awarded to GR Engineering Services Limited (**'GR Engineering'**). The contract was a fixed price, fixed term contract for the design, construction and commissioning of a three million tonnes per annum (**'mtpa'**) tungsten and tin mineral processing plant and associated infrastructure.

In July 2013, Wolf awarded a mining services contract of £85 million to CA Blackwell (Contracts) Limited to mine the open pit and build the mining waste facility. The contract comprises two phases:

- Phase 1: Mining pre-strip and mine development with a contract term of 11 months from the commencement date; and
- Phase 2: Mine production for a five-year term from the completion of Phase 1 work.

Wolf has off-take agreements in place with Global Tungsten & Powders Corp., Pennsylvania, USA **('GTP')** and Wolfram Bergbau und Hutten AG, Austria **('WBH'**). Under the terms of the off-take agreements, Wolf will supply 80% of the Hemerdon Project's expected average annual tungsten concentrate output for a minimum period of five years.

Construction of the Drakelands processing plant began in March 2014 and was completed on schedule in June 2015. Commissioning of the plant commenced shortly thereafter during which the entire processing plant and equipment ran successfully and thereby satisfied the requirements for handover to Wolf from the Project's EPC contractor GR Engineering. Upon completion of commissioning in September 2015, the Company made its first deliveries to customers and commenced the 'ramp up' of the processing plant towards full production.

The Drakelands mine and processing plant are currently operating seven days a week under a six-month trial that will run through to March 2016. If the trial is successful, Wolf will apply to make the arrangement permanent. The Hemerdon Project is expected to produce at a steady rate of 3,500 tonnes per annum of tungsten trioxide in concentrates per annum and approximately 460 tonnes of tin in concentrates per annum.

## 5.2 Historical Balance Sheet

| Statement of Financial Position | Reviewed as at 31-Dec-15 $ | Audited as at 30-Jun-15 $ | Audited as at 30-Jun-14 $ |
|---|---|---|---|
| CURRENT ASSETS | | | |
| Cash and cash equivalents | 31,638,885 | 34,417,454 | 102,819,455 |
| Trade and other receivables | 7,252,523 | 6,220,598 | 6,103,522 |
| Derivative financial instruments | - | 413,293 | - |
| Other current assets | - | 161,689 | 13,462,065 |
| Inventory | 1,269,683 | - | - |
| TOTAL CURRENT ASSETS | 40,161,091 | 41,213,034 | 122,385,042 |
| NON-CURRENT ASSETS | | | |
| Property, plant and equipment | 309,173,252 | 614,746 | 353,872 |
| Development assets | - | 296,983,129 | 119,669,556 |
| Derivative financial instruments | - | 517,220 | - |
| Other non-current assets | 19,900,851 | 20,110,873 | 6,444,561 |
| TOTAL NON-CURRENT ASSETS | 329,074,103 | 318,225,968 | 126,467,989 |
| TOTAL ASSETS | 369,235,194 | 359,439,002 | 248,853,031 |
| CURRENT LIABILITIES | | | |
| Trade and other payables | 18,848,518 | 14,452,896 | 25,600,767 |
| Provisions | 177,526 | 172,843 | 126,789 |
| Derivative financial instruments | 2,812,220 | 358,748 | - |
| Borrowings | 129,040,908 | 7,328,596 | - |
| TOTAL CURRENT LIABILITIES | 150,879,172 | 22,313,083 | 25,727,556 |
| NON-CURRENT LIABILITIES | | | |
| Provisions | 5,291,756 | 5,127,234 | 2,058,561 |
| Derivative financial instruments | 3,536,066 | 1,035,871 | - |
| Borrowings | - | 90,071,146 | - |
| TOTAL NON-CURRENT LIABILITIES | 8,827,822 | 96,234,251 | 2,058,561 |
| TOTAL LIABILITIES | 159,706,994 | 118,547,334 | 27,786,117 |
| NET ASSETS | 209,528,200 | 240,891,668 | 221,066,914 |
| EQUITY | | | |
| Issued capital | 227,006,805 | 226,982,428 | 226,295,680 |
| Reserves | 27,220,950 | 34,358,344 | 7,379,975 |
| Accumulated losses | (44,699,555) | (20,449,104) | (12,608,741) |
| TOTAL EQUITY | 209,528,200 | 240,891,668 | 221,066,914 |

**Source:** Wolf's audited financial statements for the years ended 30 June 2014 and 30 June 2015, and reviewed financial statements for the half year ended 31 December 2015

We note that Wolf's auditor included an emphasis of matter in the financial report for the half year ended 31 December 2015. The auditor outlined the existence of material uncertainty in relation to the Company's ability to continue as a going concern and whether it can realise its assets and extinguish its liabilities, in the normal course of business, at the amounts stated in the financial report.

We note the following in relation to Wolf's Statement of Financial Position:

- Cash and cash equivalents comprised cash on hand and short term bank deposits over the three financial periods through 31 December 2015. The decline of $68.40 million from $102.82 million at 30 June 2014 to $34.42 million at 30 June 2015 was primarily attributable to payments to suppliers and employees of $7.20 million, payments for exploration and development of $167.97 million, payments made on bonds and collateral deposits of $12.75 million, and payments for borrowing costs of $5.49 million. These outflows were largely offset by proceeds from borrowings of $112.54 million, proceeds from the issue of shares of $0.46 million, interest received of $0.48 million and $0.62 million in other income.
- Trade and other receivables of $6.22 million at 30 June 2015 and $6.10 million at 30 June 2014 consisted predominately of Value-added Tax (**'VAT'**) receivable of $6.17 million and $6.10 million, respectively.
- Current and non-current derivative financial instruments pertain to option foreign exchange contracts and forward foreign exchange contracts. The fair value of the derivative financial instruments asset components are detailed in the table below:

| Derivative financial instruments | 31-Dec-15<br>$ | 30-Jun-15<br>$ |
|---|---|---|
| CURRENT ASSETS | | |
| Option foreign exchange contracts | - | 15,526 |
| Forward foreign exchange contracts - cash flow hedges | - | 397,767 |
| Total | - | 413,293 |
| NON-CURRENT ASSETS | | |
| Forward foreign exchange contracts - cash flow hedges | - | 517,220 |
| Total | - | 517,220 |

**Source:** Wolf's audited financial statements for the year ended 30 June 2015 and reviewed financial statements for the half year ended 31 December 2015

- Other current assets comprised mainly prepayments, which related to transaction costs for a £75 million (A$114.89 million) senior facility, incorporating a £70 million (A$107.23 million) term loan facility and a £5 million (A$7.66 million) bond facility. Wolf entered into the agreement with UniCredit Bank Ag, London Branch, ING Bank NV and Caterpillar Financial SARL on 10 May 2013. The facilities were recognised as a prepayment at 30 June 2014 as they remained undrawn. As at 30 June 2015, £55 million (A$90.07 million) of the term loan had been drawn down and £5 million (A$7.33 million) of the bond facility had been utilised, with transaction costs being allocated against the liability and amortised using the effective interest method.
- Inventory increased from nil at 30 June 2015 to $1.27 million at 31 December 2015 due to the Hemerdon Project moving from development to production phase during the six months to 31 December 2015.
- Property, plant and equipment increased significantly from $0.61 million at 30 June 2015 to $309.17 million at 31 December 2015. The increase was primarily as a result of mining development assets of $315.32 million being transferred to property plant and equipment subsequent to the Hemerdon Project moving from development to production phase during the six

months to 31 December 2015. This was partially offset by accumulated depreciation totalling $7.46 million for the half year ended 31 December 2015.

- Development assets increased significantly from 30 June 2014 to 30 June 2015 due to greater expenditure on mine development. Development assets of $296.98 million at 30 June 2015 included $119.67 million in mine development expenditure brought forward, $15.50 million in effect of foreign currency exchange differences and $161.82 million of expenditure capitalised during the year. Development assets were nil for the half year ended 31 December 2015 as it was transferred to property, plant and equipment subsequent to the Hemerdon Project moving from development to production phase during the six months to 31 December 2015.
- Other non-current assets of $20.11 million at 30 June 2015 comprised a bond agreement and cash collateral deposits, which Wolf provided as security to various parties in connection with environmental restoration obligations. The two major non-current collateral deposits are an $18.50 million financial provision for the restoration bond and a $1.53 million environmental waste permit.
- Trade payables of $14.45 million at 30 June 2015 included trade payables of $8.78 million, accrued borrowing costs of $0.91 million and sundry payables and accrued expenses of $4.76 million.
- Current and non-current provisions relate to the future cost of rehabilitating mine sites and associated production facilities, on a discount basis, at the time of constructing the mine and installing those facilities.
- Current and non-current derivative financial instruments pertain to amortising interest swaps and forward foreign exchange contracts. The fair value of the derivative financial instruments liability components are detailed in the table below:

| Derivative financial instruments | 31-Dec-15<br>$ | 30-Jun-15<br>$ |
|---|---|---|
| CURRENT LIABILITIES | | |
| Amortising interest rate swaps | | 294,383 |
| Forward foreign exchange contracts - cash flow hedges | | 64,365 |
| Total | 2,812,220 | 358,748 |
| NON-CURRENT LIABILITIES | | |
| Amortising interest rate swaps | | 838,964 |
| Forward foreign exchange contracts - cash flow hedges | | 196,907 |
| Total | 3,536,066 | 1,035,871 |

**Source:** Wolf's audited financial statements for the year ended 30 June 2015 and reviewed financial statements for the half year ended 31 December 2015

- Current borrowings of $129.04 million at 31 December 2015 pertain to the senior secured loan and bond facility for £75 million (A$114.89 million). A breakdown of the senior secured loan as at 31 December 2015 is provided in the table below:

| Senior secured loan | Current $ | Non-current $ |
|---|---|---|
| Balance at 30 June 2015 | 7,328,596 | 90,071,146 |
| Drawdowns during the period | - | 30,388,500 |
| Amortisation of transaction costs | 2,218,951 | - |
| Effect of foreign currency exchange differences | (72,705) | (893,580) |
| Reclassification of borrowings | 119,566,066 | (119,566,066) |
| Balance at 31 December 2015 | 129,040,908 | - |

**Source:** Wolf's reviewed financial statements for the half year ended 31 December 2015

The senior secured loan has a 7.5 year maturity and interest rate of London Interbank Offered Rate (**'LIBOR'**) plus 4.25 per cent. The bond facility also has a 7.5 year maturity however the interest rate is set at 2.75 per cent.

- Issued capital increased from $226.98 million at 30 June 2015 to $227.01 million at 31 December 2015 as a result of 124,593 new shares being issued to the Company's Non-executive Directors during the half year ended 31 December 2015.
- Reserves comprised share based payments, foreign currency translation and cash flow hedge reserves. Foreign currency translation reserves accounted for the majority of total reserves constituting $27.25 million of the $34.36 million at 30 June 2015.

## 5.3 Historical Statement of Profit or Loss and Other Comprehensive Income

| Statement of Profit or Loss and Other Comprehensive Income | Reviewed for the half year ended 31-Dec-15 $ | Audited for the year ended 30-Jun-15 $ | Audited for the year ended 30-Jun-14 $ |
|---|---|---|---|
| Revenue | 1,862,819 | 534,414 | 137,825 |
| Other income | 111,683 | 49,008 | 64 |
| Cost of sales | (11,528,149) | - | - |
| Depreciation expense | (7,425,039) | (246,577) | (50,999) |
| Finance costs | (4,820,572) | (549,163) | (1,077,389) |
| Corporate costs | (2,451,194) | (9,132,609) | (2,741,075) |
| **Loss before income tax** | (24,250,452) | (9,344,927) | (3,731,574) |
| Income tax benefit | - | 582,965 | - |
| **Loss for the year after income tax** | **(24,250,452)** | **(8,761,962)** | **(3,731,574)** |
| **Other comprehensive income for the year** | | | |
| Items that may be reclassified subsequently to profit or loss | | | |
| Foreign currency translation | (1,231,744) | 27,246,309 | 4,009,733 |
| Movement in the cash flow hedge reserve (net of tax) | (6,028,652) | 653,715 | - |
| Other comprehensive income for the year (net of tax) | (7,260,396) | 27,900,024 | 4,009,733 |
| **Total comprehensive income for the year attributable to members of the parent** | **(31,510,848)** | **19,138,062** | **278,159** |

**Source:** Wolf's audited financial statements for the years ended 30 June 2014 and 30 June 2015, and reviewed financial statements for the half year ended 31 December 2015

We note the following in relation to Wolf's Statement of Profit or Loss and Other Comprehensive Income:

- Revenue for the years ended 30 June 2014 and 30 June 2015 relate solely to interest received. Revenue of $1.86 million for the half year ended 31 December 2015 was generated from tungsten operations at the Hemerdon Project.
- Cost of sales of $11.53 million for the half year ended 31 December 2015 comprise $3.59 million in mining costs, $4.82 million in processing costs and $3.12 million in site administration.
- Depreciation expenses increased significantly by $7.18 million from $0.25 million at 30 June 2015 to $7.43 million at 31 December 2015 primarily as a result of depreciation expense of $7.275 million on mining assets.
- Finance costs increased by $3.66 million from $1.16 million at 30 June 2015 to $4.82 million at 31 December 2015. The Company's financing costs are summarised in the table below:

| Finance costs | 31-Dec-15 $ | 30-Jun-15 $ |
|---|---|---|
| Bank charges | 2,135 | 5,113 |
| Interest expense | 3,283,911 | 1,536 |
| Borrowing costs | 756,041 | 176,813 |
| Rehabilitation discount unwind | 165,829 | - |
| Fair value losses on financial instruments | 612,656 | 975,366 |
| **Total** | **4,820,572** | **1,158,828** |

**Source:** Wolf's audited financial statements for the year ended 30 June 2015 and reviewed financial statements for the half year ended 31 December 2015

- Corporate costs of $2.45 million at 31 December 2015 primarily comprise administration expenses, consultancy expenses, employee benefits expense, foreign exchange gain/loss and financial instrument gain/loss.
- Foreign currency translation gains/(losses) were realised as Wolf undertakes certain transactions denominated in foreign currencies and is exposed to foreign currency risk through foreign exchange rate fluctuations, primarily with respect to the GBP and United States Dollar ('**USD**' or '**US$**').
- Movement in the cash flow hedge reserve of $6.03 million for the half year ended 31 December 2015 records the effect of exchange and interest differences on the translation of hedged instruments.

## 5.4 Capital Structure

The share structure of Wolf as at 29 January 2016 is outlined below:

| | Number |
|---|---|
| Total ordinary shares on issue | 809,724,760 |
| Top 20 shareholders | 783,190,309 |
| Top 20 shareholders - % of shares on issue | 96.72% |

**Source:** Wolf's share register

The range of shares held in Wolf as at 29 January 2016 is as follows:

| Range of Shares Held | Number of Ordinary Shareholders | Number of Ordinary Shares | Percentage of Issued Shares |
|---|---|---|---|
| 1 - 1,000 | 73 | 22,966 | 0.00% |
| 1,001 - 5,000 | 253 | 761,209 | 0.09% |
| 5,001 - 10,000 | 177 | 1,463,444 | 0.18% |
| 10,001 - 100,000 | 414 | 13,590,272 | 1.68% |
| 100,001 - and over | 80 | 793,886,869 | 98.04% |
| **TOTAL** | **997** | **809,724,760** | **100.00%** |

**Source:** Wolf's share register

Ordinary shares held by the most significant shareholders as at 29 January 2016 are detailed as follows.

| Name | Number of Ordinary Shares Held | Percentage of Issued Shares |
|---|---|---|
| Resource Capital Fund V LP | 337,669,237 | 41.70% |
| TTI (NZ) Limited | 260,596,682 | 32.18% |
| Computershare Clearing PL | 110,584,945 | 13.66% |
| Traxys Project LP | 55,506,776 | 6.86% |
| Subtotal | 764,357,640 | 94.40% |
| Others | 45,367,120 | 5.60% |
| **Total ordinary shares on issue** | **809,724,760** | **100.00%** |

**Source:** Wolf's share register

Wolf has the following performance rights expiring within the next five years:

| Description | Number |
|---|---|
| Performance rights expiring 30 June 2016 | 1,461,429 |
| Performance rights expiring 30 June 2017 | 1,491,989 |
| Performance rights expiring 30 June 2018 | 1,982,545 |
| Performance rights expiring 30 June 2020 | 366,945 |
| **Total number of performance rights** | **5,302,908** |

**Source:** Wolf's Appendix 3B

The most significant option holders of Wolf as at the date of our Report are outlined below:

| Grant Date | Date of Expiry | Exercise Price | Number of Options |
|---|---|---|---|
| 22/05/2013 | 22/05/2016 | 0.2640 | 3,200,000 |

**Source:** Wolf's Appendix 3B

If the options are exercised approximately $0.84 million would be raised. However, based on Wolf's share price on or around the date of our Report, all the options are out-of-the-money.

## 6. Profile of RCF

Resource Capital Funds is a group of commonly managed private equity funds established in 1998 with a mining sector specific investment mandate spanning all hard mineral commodities and geographic regions. The Funds are managed by RCF Management L.L.C. which has its principal office in Denver and additional offices in Perth, New York (Long Island) and Toronto.

The Funds' committed capital is sourced primarily from US-based institutional investors. The sixth fund, Resource Capital Fund VI LP, with committed capital of $2.04 billion, is now being invested. Further information about Resource Capital Funds is available at www.resourcecapitalfunds.com.

RCF has experience in building management teams specifically suited to develop and/or operate assets and has the resources and networks to draw upon to source top talent from around the world. In addition to providing financing, RCF has the in-house technical and financial expertise to actively guide a mining company's management team through the process of raising capital in the public equity and project financing markets. RCF's management team consists of individuals with extensive commercial and technical experience in the mining industry.

As at the date of our Report, Resource Capital Fund V LP is the largest shareholder in Wolf with an ownership interest of 41.70%.

## 7. Economic analysis

### Economic growth

The global economy is continuing to grow, though at a slightly slower pace than earlier expected. While several advanced economies have recorded improved growth over the past year, emerging market economies have experienced more challenging conditions. Moderate growth rate in China and softening conditions in East Asia are being offset by stronger growth in the United States of America (**'U.S.'**) and recovering European markets. Key commodity prices have fallen significantly and reflect increased world supply, including from Australia, in addition to weaker demand. This has resulted in the decline of Australia's terms of trade.

The Australian economy has continued to grow at a moderate pace, albeit at a rate below longer-term averages. Expansion in the non-mining sectors of the economy strengthened during 2015 despite the contraction in investment in mining and resources.

General employment levels in Australia have exhibited some growth, with unemployment declining in the second half of 2015; however the economy is likely to be operating with a degree of spare capacity for some time yet. Recent information confirms that domestic inflationary pressures have been contained and despite a lower exchange rate, should remain consistent with the target over the next one to two years.

### Interest rates

The Reserve Bank of Australia (**'RBA'**) decided to leave the cash rate unchanged at 2.00% for the month of March 2016. The RBA's decision to maintain low interest rates has been made in order to support borrowing and spending in the Australian economy. Credit is recording moderate growth overall, driven by stronger borrowing by businesses and increased lending to the housing market in recent months, albeit

with a changed composition between investors and owner-occupiers. Furthermore, prices for equities and commercial property have been supported by lower long-term interest rates.

Financial markets have exhibited heightened volatility recently, as participants deal with uncertainty about the global economic outlook and diverging policy settings among major jurisdictions. Appetite for risk has diminished somewhat and funding for emerging market sovereigns and lesser-rated corporates has tightened. However, long-term borrowing rates for most sovereigns and creditworthy private borrowers remain remarkably low.

Wolf may be positively affected by an overall increase in Australian equities as investors seek investments returning higher yields than long term interest rates can provide.

### Foreign Exchange

Foreign exchange markets have continued to be influenced by the stance, both current and prospective, of monetary policy in the major advanced economies. The Australian dollar has depreciated against a rising U.S. dollar over the past year, though less so against a basket of currencies. Further depreciation seems both likely and necessary, particularly given the significant decline in key commodity prices. A lower exchange rate is likely required in order to achieve balanced growth in the economy.

A weaker Australian dollar is likely to attract additional foreign investment in Australian assets. Wolf is well placed to benefit from the increased capital flows and resultant demand for Australian equities.

### Commodity prices

Commodity prices have declined over the past year, in some cases sharply. Oil and iron ore in particular have fallen significantly. These trends can be attributed to a combination of lower growth in demand and substantial increases in supply over recent years. Low energy prices will act to strengthen global output and temporarily lower CPI inflation rates.

An overall decline in the commodities market may have a negative impact on Wolf due to declines in the price of tungsten and tin. Furthermore, the decline in commodities may also reduce investor demand for equities within the commodities industry.

**Source:** www.rba.gov.au *Statement by Glenn Stevens, Governor: Monetary Policy Decision* 1 March 2016

## 8. Industry analysis

Tungsten is an essential component in many industrial applications due to the numerous unique properties it exhibits. These include a high melting point, high density, low vapour pressure, thermal and chemical stability, excellent conductibility, being environmentally benign and having no known substitutes.

Tungsten ore is primarily obtained from Wolframite and Scheelite, which is crushed, cleaned and treated with alkalis to form tungsten trioxide ($WO_3$). Tungsten trioxide is then heated with carbon or hydrogen gas to extract the pure tungsten metal (W). Given its properties, approximately 55% of tungsten consumed is for the production of hard metals, or cemented carbides; these include cutting, drilling and wear materials formed from tungsten carbides and cobalt, and occasionally other minor metals such as titanium, tantalum and niobium. Other major uses of tungsten include steel alloys (20%) and mill products (17%), with an additional 8% of tungsten used in the chemical industry and in specialist application.

The tungsten industry comprises three main segments:

- Producers;
- Processors; and
- Manufacturers.

Producers mine and carry out primary mineral processing to produce tungsten mineral concentrates. Processors then take the mineral concentrates and process them into a number of tungsten powders, including ammonium paratungstate ('**APT**'), which are suitable for use in downstream metal/alloy manufacturing. Manufacturers produce finished tungsten metal, tungsten alloys, tungsten tools and other tungsten end products.

## Demand and Supply

Due to its heavy end use application in automobiles, machinery and steel, demand for tungsten is highly sensitive to worldwide economic conditions. This was illustrated by the negative effects the global credit crisis of 2008 had on tungsten demand and prices.

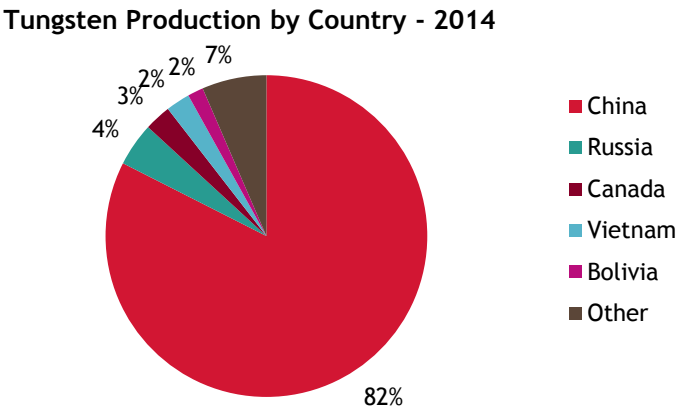
Following these recessionary economic conditions, demand began to recover, which initiated a substantial increase in price between 2010 and 2011. Supply also increased over this period, particularly in China, to meet demand needs and to capitalise on a high commodity price.

Increased economic uncertainty driven by a market decline in Japan, and the Eurozone debt crisis, led to a decline in tungsten demand during 2012, which was partially offset by increased demand from a booming Chinese economy. China, the world's largest consumer of tungsten, continued to grow at unprecedented levels and was a key driver in tungsten demand peaking again in 2013. This resulted in the existing stockpiles becoming exhausted and further investment in supply side activities.

Tungsten stocks have since been rebuilt on the back of successive years of production exceeding demand, and increased levels of recycling and use of secondary tungsten. Consequently, there has been little investment in new mines and many existing projects have been suspended.

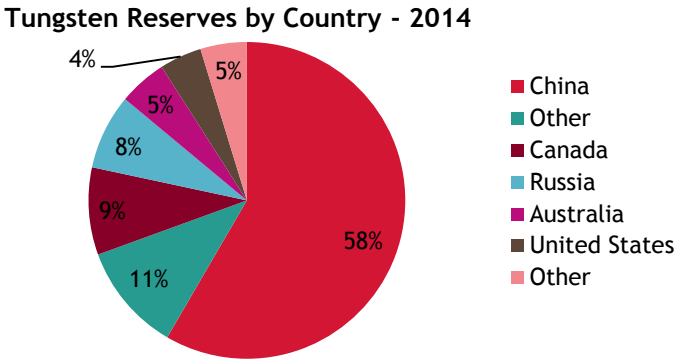
## Production and Reserves

Annual world production of tungsten trioxide has remained relatively consistent in recent years, with the majority of primary tungsten coming from China. A breakdown of the production of tungsten by country for 2014 is provided in the chart below.




**Source:** U.S. Geological Survey – Tungsten 2015

As illustrated below, the majority of the world's tungsten reserves are located in China (58%) followed by Canada (9%) and Russia (8%).




**Source:** U.S. Geological Survey – Tungsten 2015

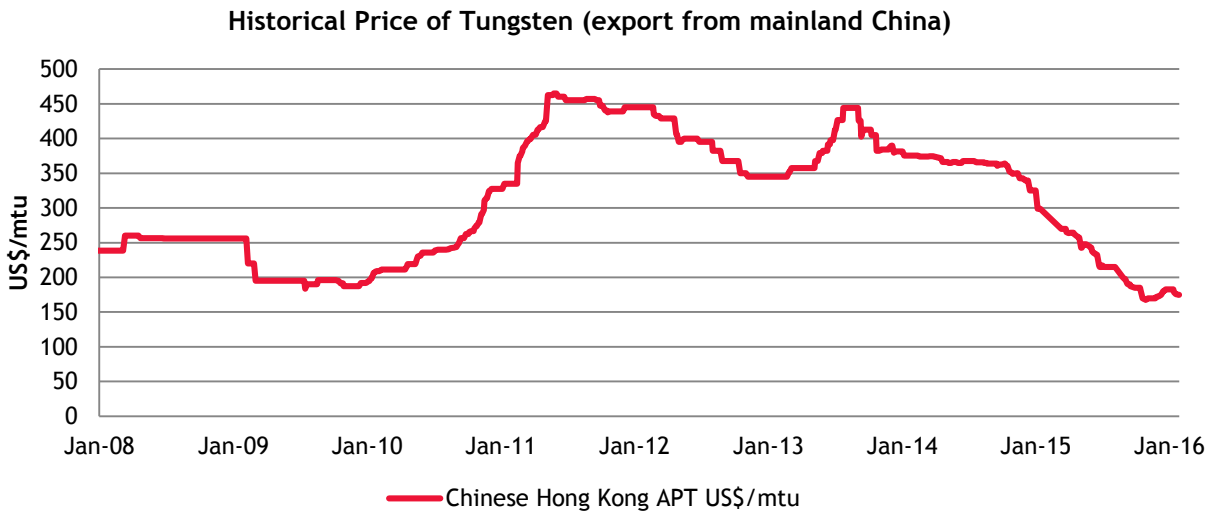
## Prices

China has grown to become the largest consumer of tungsten, and as a result, has moved from a net exporter to a net importer. The increase in Chinese demand, combined with increased controls by the Chinese government on their tungsten exports, put considerable pressure on tungsten prices, which increased from US$50 per metric tonne unit ('**mtu**') in 2002 to in excess of US$450 per mtu in 2011.

A downturn in Japan and the Eurozone debt crisis during 2012 contributed to a temporary decline in tungsten prices, before increased demand from a booming China drove the price back towards US$450 per mtu in 2013.

Tungsten prices have since declined as the Chinese economy begins to slow and demand has declined in line with the overall decline in the commodities market. Increasing rates of tungsten recycling have further supressed the consumption of primary tungsten.

The graph below shows the price of the 'Tungsten APT Chinese Hong Kong FOB Huangpu Port' (US$/mtu) over the period 1 January 2008 to 29 January 2016.




**Source:** Bloomberg

### Outlook

Growth in economic activity is expected to facilitate increased demand for primary tungsten, as secondary tungsten via recycling reaches maximum capacity and stock piles are reduced to low levels. Globally, tungsten output is likely to decline as current operations near exhaustion and begin to process low grade ore. Furthermore, established operations have little capacity for significant expansion and new projects are not feasible or experiencing serious delays due to difficulties in obtaining financing.

Together, these factors should see the excess supply of tungsten begin to dissipate. Furthermore, improving fundamentals in the tungsten industry and recovery in end-use sectors for tungsten, particularly in China, should see tungsten prices improve in the near future.

Over the longer term, tungsten's unique physical properties and lack of viable substitutes should support demand and prices. It is expected that world tungsten demand will increase towards 2020.

## 9. Valuation approach adopted

There are a number of methodologies that can be used to value a business or the shares in a company. The principal methodologies which can be used are as follows:

- Capitalisation of future maintainable earnings ('**FME**')
- Discounted cash flow ('**DCF**')
- Quoted market price basis ('**QMP**')
- Net asset value ('**NAV**')
- Market based assessment such as a resource multiple

A summary of each of these methodologies is outlined in Appendix 2.

Different methodologies are appropriate in valuing particular companies, based on the individual circumstances of that company and available information.

It is possible for a combination of different methodologies to be used together to determine an overall value where separate assets and liabilities are valued using different methodologies. When such a combination of methodologies is used, it is referred to as a 'sum-of-parts' ('**Sum-of-Parts**') valuation.

The approach using the Sum-of-Parts involves separately valuing each asset and liability of the company. The value of each asset may be determined using different methods as described above. The component parts are then valued using the NAV methodology, which involves aggregating the estimated fair market values of each individual company's assets and liabilities.

### 9.1 Valuation of Wolf prior to the Proposed Transaction

In our assessment of the value of a Wolf share prior to the Proposed Transaction ('**Pre-Transaction**'), we considered the following methodologies:

- Sum-of-Parts method as our primary approach; and
- QMP as our secondary approach.

## Sum-of-Parts

We have employed the Sum-of-Parts method in estimating the fair market value of Wolf by aggregating the estimated fair market values of its underlying assets and liabilities, having consideration to the:

- value of Wolf's interest in the Hemerdon Project under the current pit design of a 13-year life of mine (ore reserves only) (applying the DCF method) on the assumption that Wolf will have to raise the additional capital (proposed to be provided by RCF under the Proposed Transaction) through a notional capital raising instead;
- value of Wolf's additional resources that have not been included in the life of mine of the current pit design (applying the DCF method on the extended 18-year life of mine cash flow and then deducting the value obtained by applying the DCF method on the original life of mine cash flow for ore reserves only);
- value of Wolf's remnant resources at the Hemerdon Project beyond the 18-year optimised pit, which comprises largely inferred resources (reliance on the valuation carried out by the independent technical expert);
- amount of cash received from a notional capital raising;
- amount of Wolf's corporate costs (included in the cash flows of the Hemerdon Project); and
- value of other assets and liabilities of Wolf (applying the cost approach under the NAV method).

We have chosen the sum-of-Parts method (including a DCF method) as our primary valuation methodology for the following reasons:

- as Wolf has one flagship project which is its Hemerdon Project, its core value is in the future cash flows to be generated from operating the mine;
- cash flows from the Hemerdon Project have a finite life and these cash flows may vary substantially from year to year, rendering it suitable for the DCF valuation;
- the life of mine of the Hemerdon Project based on the current pit design has been prepared based on ore reserves identified by Wolf and provides a reasonable basis for valuing these reserves using the DCF method;
- the technical expert has reasonable grounds to extend the life of mine of the Hemerdon Project beyond the current pit design to provide a reasonable basis for implying the value of the additional measured and indicated resources at the Hemerdon Project using the DCF method;
- Wolf has secured debt funding for the Hemerdon Project, which provides reasonable grounds that, in the event that the funds from the Proposed Transaction are not available, the Company may still be able to raise further equity funds on less attractive terms to provide the required funding for Wolf to ramp up its Hemerdon Project and to facilitate the Company's debt repayments; and
- other component parts such as other assets and liabilities of Wolf are valued using the NAV method.

The assumptions that we undertake in the Sum-of-Parts valuation approach to derive the Pre-Transaction value, differ from the Sum-of-Parts valuation approach to derive the value of the Company following the Transaction, in that, the Pre-Transaction value takes into account the additional capital that Wolf will have to raise without the provision of the additional funding from Resource Capital Fund VI LP under the Transaction.

On this basis, Wolf will require this additional capital to be raised through alternative methods in order to meet the funding requirements to ramp up the Hemerdon Project and to facilitate the Company's debt repayments.

We have considered the likely price at which Wolf will have to place its shares to a third party or to current shareholders under a capital raising to raise the capital required. Whilst we understand that it may not be likely for Wolf to raise capital in this manner, we are required by RG111.15 to assess the funding requirements for a company that is not in financial distress when considering its value, especially when using the DCF methodology. Therefore, we have assumed a 'notional' capital raising that is likely to result in significant dilution for the Company in order to raise this capital.

To determine the likely issue price, we considered the volume weighted average trading price of Wolf's shares and the discount at which shares have been issued by ASX listed companies when compared with the companies' share prices the day prior to the announcement of the capital raising.

### Technical expert

In performing our valuation of Wolf's Hemerdon Project using the DCF method, we have relied on the Technical Assessment and Valuation Report prepared by Micon International Limited ('**Micon**') as at 12 February 2016 ('**Technical Assessment and Valuation Report**') based on Micon's review of the technical project assumptions contained in the cash flow model of the current pit design (ore reserve estimate) of the Hemerdon Project.

Micon also provided the mining and processing schedule as well as all the relevant technical inputs for a five-year mine life extension beyond the current pit design, enabling us to extend the cash flow model of the Hemerdon Project to value the additional resources not included in the initial cash flow model.

Micon has independently valued the remnant resources at the Hemerdon Project beyond the 18-year optimised pit, which comprises measured and indicated resources, but largely inferred resources.

Micon's Technical Assessment and Valuation Report is prepared in accordance with the Code of Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports 2005 ('**the Valmin Code**') and the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('**JORC Code**').

### Other methodologies adopted

We have chosen the QMP methodology as our secondary approach. The QMP basis is a relevant methodology to consider because Wolf's shares are listed on both the ASX and AIM. This means there is a regulated and observable market where Wolf's shares can be traded. However, in order for the QMP methodology to be considered appropriate, the Company's shares should be liquid and the market should be fully informed as to Wolf's activities.

## 9.2 Valuation of Wolf after the Proposed Transaction

In our assessment of the value of Wolf's shares following the Proposed Transaction ('**Post-Transaction**'), we have adopted the Sum-of-Parts methodology.

We have employed the Sum-of-Parts method in estimating the fair market value of Wolf by aggregating the estimated fair market values of its underlying assets and liabilities, having consideration to the:

- value of Wolf's interest in the Hemerdon Project under the current pit design of a 13-year life of mine (ore reserves only) (applying the DCF method) on the assumption that Wolf will raise the required capital through RCF under the Proposed Transaction;
- value of Wolf's additional resources that have not been included in the life of mine of the current pit design (applying the DCF method on the 18-year extended life of mine cash flow and then deducting

the value obtained by applying the DCF method on the original life of mine cash flow for ore reserves only);

- value of Wolf's remnant resources at the Hemerdon Project beyond the 18-year optimised pit, which comprises largely inferred resources (reliance on the valuation carried out by the independent technical expert);
- amount of cash received from the Proposed Transaction;
- amount of Wolf's corporate costs (included in the cash flows of the Hemerdon Project); and
- value of other assets and liabilities of Wolf (applying the cost approach under the NAV method).

In performing our valuation of the Hemerdon Project in relation to both the ore reserves and the additional resources that have not been included in the life of mine of the current pit design using the DCF method, we have relied on the Technical Assessment and Valuation Report based on Micon's review of the technical project assumptions contained in the cash flow model of the Hemerdon Project.

# 10. Valuation of Wolf prior to the Proposed Transaction

We have employed the Sum-of-Parts method in estimating the fair market value of a Wolf share on a control basis prior to the Proposed Transaction by aggregating the estimated fair market values of its underlying assets and liabilities, having consideration to the following:

- value of Wolf's interest in the Hemerdon Project under the current pit design of a 13-year life of mine (ore reserves only);
- value of Wolf's additional resources that have not been included in the life of mine of the current pit design;
- value of Wolf's remnant resources at the Hemerdon Project beyond the 18-year optimised pit, which comprises largely inferred resources;
- amount of cash received from a notional capital raising;
- amount of Wolf's corporate costs (included in the cash flows of the Hemerdon Project); and
- value of other assets and liabilities of Wolf.

## 10.1 Sum of Parts valuation of Wolf

The value of Wolf's assets on a going concern basis is reflected in our valuation below:

| Summary of Assessment | Section | Low $m | Preferred $m | High $m |
|---|---|---|---|---|
| DCF value of Hemerdon Project to equity holders | 10.5 | 180.0 | 200.0 | 220.0 |
| Value of additional resources | 10.6 | 30.0 | 40.0 | 50.0 |
| Value of remnant resources | 10.7 | 20.8 | 24.0 | 26.5 |
| Amount of cash received from a notional capital raising | 10.9 | 50.5 | 50.5 | 50.5 |
| Other assets and liabilities | 10.8 | 29.4 | 29.4 | 29.4 |
| **Value of Wolf under Sum-of-Parts method** | | **310.7** | **343.9** | **376.4** |
| Number of Wolf shares (million) | 10.9 | 1,160.419 | 1,160.419 | 1,160.419 |
| **Value per share ($)** | | **0.268** | **0.296** | **0.324** |

**Source:** BDO analysis

The table above indicates that the value of a Wolf share on a control basis prior to the Proposed Transaction is between $0.268 and $0.324, with a preferred value of $0.296.

## 10.2 DCF Valuation of the Hemerdon Project

We elected to use the DCF approach in valuing the Hemerdon Project. The DCF approach estimates the fair market value by discounting the future cash flows arising from the Hemerdon Project to their net present value. We have assumed that the Company will be able to find an alternative source of funding to enable it to ramp up the production at the Hemerdon Project and to facilitate the Company's debt repayments. We note that significant efforts have been made to identify alternative sources of funding but the terms of the Proposed Transaction are the most attractive. We understand that the options available to the Company to source attractive funds on attractive terms are limited. See the discussion in section 9.1.

Performing a DCF valuation requires the determination of the following:

- the expected future cash flows that the Hemerdon Project is expected to generate; and
- an appropriate discount rate to apply to the cash flows of the Hemerdon Project to convert them to present value equivalent.

## 10.3 Hemerdon Project – Future cash flows

A cash flow model for the Hemerdon Project (ore reserves only) was prepared by Wolf (the **'Model'**). The Model estimates the future cash flows expected from tungsten and tin production at the Hemerdon Project based on determined JORC compliant reserves. The Model depicts forecasts of real, post-tax cash flows over the life of mine on an annual basis.

The Model has been adjusted by us to reflect any changes to technical assumptions as a result of Micon's review and any changes to the economic and other input assumptions from our research. We have also adjusted the Model to reflect cash flows on a nominal basis (**'The Adjusted Model'**). The Model was prepared based on estimates of production profile, operating costs and sustaining capital expenditure.

The main assumptions underlying the Model include:

- mining and production volumes;
- stockpile movements;
- commodity prices;
- operating costs;
- sustaining capital expenditure;
- foreign exchange rates;
- royalties; and
- discount rate.

We undertook the following analysis on the Model:

- appointed Micon as technical expert to review, and where required, provide changes to the technical assumptions underlying the Model;
- conducted independent research on certain economic and other inputs such as commodity prices, inflation and discount rate applicable to the future cash flows of the Hemerdon Project;

- held discussions with Wolf's management regarding the preparation of the forecasts in the Model and its views;
- adjusted the Model to reflect any changes to the technical assumptions as a result of Micon's review and any changes to the economic and other input assumptions from our research; and
- performed a sensitivity analysis on the value of the Hemerdon Project as a result of flexing selected assumptions and inputs.

## Appointment of a technical expert

Micon was engaged to prepare a report providing a technical assessment of the Hemerdon Project assumptions underlying the Model. Micon's assessment involved the review and provision of input on the reasonableness of the assumptions adopted in the Model, including but not limited to:

- mining physicals (including volume mined, recovery and grade);
- processing assumptions (including products and recovery, scheduling and plant utilisation);
- operating costs (comprising direct operating expenditure and certain fixed costs);
- capital expenditure (development and sustaining capital required); and
- other relevant assumptions.

A copy of Micon's Technical Assessment and Valuation Report is included in Appendix 4.

## Limitations

Since forecasts relate to the future, they may be affected by unforeseen events and they depend, in part, on the effectiveness of management's actions in implementing the plans on which the forecasts are based. Accordingly, actual results may vary materially from the forecasts included in the Model, as it is often the case that some events and circumstances frequently do not occur as expected, or are not anticipated, and those differences may be material.

## Economic assumptions

### Inflation

We applied an inflation rate to convert the forecast real costs into nominal terms in the Adjusted Model. In our assessment of the inflation rate, we have considered forecasts prepared by economic analysts and other publicly available information including broker consensus to arrive at our inflation rate assumptions. From our analysis, inflation in the United Kingdom in 2015 was 0.2%. The Bank of England's target inflation rate is 2.0%. On this basis, we have assumed the inflation rate in the United Kingdom going forward will be 2.0% on average for the forecast period.

### Foreign exchange rate

All commodity prices are stated in USD, the forecasts relating to costs in the Adjusted Model are in Great British Pounds and our valuation is in Australian Dollars. The conversions from USD to AUD and from GBP to AUD were undertaken using the following foreign exchange rate assumptions in calendar years (**'CY'**):

| Period | 1 AUD: x USD | 1 AUD: x GBP |
|---|---|---|
| CY2016 | 0.690 | 0.472 |
| CY2017 | 0.720 | 0.470 |
| CY2018 | 0.750 | 0.488 |
| CY2019 | 0.790 | 0.496 |
| CY2020 | 0.820 | 0.508 |

**Source:** Bloomberg

## Revenue Assumptions

Wolf receives revenue from the following products:

- tungsten trioxide concentrates; and
- tin concentrates.

### Tungsten

Wolf has entered into off take agreements with GTP and WBH which specify the quantities of tungsten to be delivered by Wolf and the prices to be received by Wolf. The prices to be received by Wolf are based on a discount to the London Metals Bulletin Low APT quotation for 'Tungsten APT quotation European free market USD per MTU' for the latest complete calendar month prior to each shipment.

In obtaining forecast tungsten concentrate prices, we have relied on independent market research for tungsten price forecast together with price adjustments made by Wolf and BDO. We adopted the following future tungsten prices (in real terms) and converted them into nominal terms in our Adjusted Model:

| Period | APT (US$/mtu) |
|---|---|
| CY2016 | 215 |
| CY2017 | 300 |
| CY2018 | 350 |
| CY2019 | 375 |
| CY2020 | 400 |
| CY2021 onwards | 400 |

**Source:** Independent market research, Wolf and BDO analysis

### Tin

In obtaining forecast tin prices we have considered:

- historical spot and forward prices from Bloomberg; and
- most recent Consensus Economics price forecasts.

Based on our analysis, we adopted the following future tin prices (in nominal terms):

| Period | Tin (US$/t) |
|---|---|
| CY2016 | 16,663 |
| CY2017 | 17,045 |
| CY2018 | 18,155 |
| CY2019 | 19,002 |
| CY2020 | 20,031 |
| CY2021 onwards | 21,616 |

**Source:** Consensus Economics

Wolf has an off-take agreement with Traxys in relation to the tin concentrates produced at the Hemerdon Project. According to the contract reviewed by Micon and documented in the Micon Technical Report, a discount will apply to the market price of tin. Our assumptions in the Adjusted Model regarding the tin price realised by Wolf are based on a discount to the market prices for tin outlined in the table above.

## Mining Physicals

The tables below show the technical mining assumptions that have been provided by Micon for use in the Model. The Adjusted Model includes ore reserves only.

| Hemerdon Project - Mining | Forecast CY2016 | Forecast CY2017 | Forecast CY2018 | Forecast CY2019 | Forecast CY2020 | Annual Average CY2021 - CY2026 | Forecast CY2027 |
|---|---|---|---|---|---|---|---|
| Ore mined (t) | 3,076,024 | 3,001,079 | 3,002,308 | 3,002,212 | 3,002,386 | 2,983,136 | 547,352 |
| Tungsten grade (% W) | 0.178% | 0.159% | 0.146% | 0.138% | 0.134% | 0.143% | 0.159% |
| Tin grade (% Sn) | 0.033% | 0.031% | 0.028% | 0.029% | 0.028% | 0.022% | 0.018% |
| Contained tungsten (t) | 5,475 | 4,771 | 4,383 | 4,143 | 4,023 | 4,265 | 870 |
| Contained tin (t) | 1,015 | 930 | 841 | 871 | 841 | 656 | 99 |

**Source:** Adjusted Model

## Processing Assumptions

The tables below show the processing assumptions that have been provided by Micon for use in the Adjusted Model.

| Hemerdon Project - Processing | Forecast CY2016 | Forecast CY2017 | Forecast CY2018 | Forecast CY2019 | Forecast CY2020 | Annual Average CY2021 - CY2026 | Forecast CY2027 |
|---|---|---|---|---|---|---|---|
| Tonnes processed (t) | 3,119,220 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 2,989,786 | 576,203 |
| **Tungsten** | | | | | | | |
| Grade processed (% $WO_3$) | 0.224% | 0.200% | 0.184% | 0.175% | 0.169% | 0.181% | 0.200% |
| Tungsten trioxide (mtu) | 402,004 | 365,837 | 349,448 | 331,894 | 324,666 | 354,648 | 75,695 |
| **Tin** | | | | | | | |
| Grade processed (% Sn) | 0.027% | 0.032% | 0.031% | 0.028% | 0.029% | 0.028% | 0.021% |
| Tin (t) | 628 | 570 | 494 | 503 | 491 | 357 | 56 |

**Source:** Adjusted Model

## Operating Costs

Operating costs included in the Adjusted Model consist of mining operations, processing and administration costs. The average forecast unit mining and processing costs (calculated on a nominal basis) over the life of the mine are as follows.

- average mining costs - £2.76/t total material (or A$5.41/t total material)
- average processing costs - £4.75/t processed (or A$9.33/t processed)

General administration expenses (including group corporate overheads) average A$12.8 million per annum (on a nominal basis) over the life of mine.

## Capital Costs

Capital costs include further plant and infrastructure totalling A$16.8 million required over the first two forecast years and annual sustaining capital costs for the rest of the life of mine.

## Royalties

Wolf will be liable to pay two royalties upon the commencement of operations at Hemerdon, both of which are discussed below:

- a royalty to be paid to RCF in accordance with the consideration paid to Wolf by RCF (**'RCF Royalty'**); and
- a royalty to be paid to the landowners (**'Metals Royalty'**).

### RCF Royalty

The RCF Royalty is a 2% royalty on gross revenue payable by Wolf in consideration of Resource Capital Fund V LP previously providing US$7 million in cash to Wolf. As Resource Capital Fund V LP is not a resident of the United Kingdom for tax purposes, withholding tax of 20% must be paid on this royalty. Under the terms of the agreement between Resource Capital Fund V LP and Wolf, Wolf is liable to pay the withholding tax. The table below shows the forecast royalty to be paid over the life of mine:

| Period | Forecast CY2016 | Forecast CY2017 | Forecast CY2018 | Forecast CY2019 | Forecast CY2020 | Annual Average CY2021 - CY2026 | Forecast CY2027 |
|---|---|---|---|---|---|---|---|
| Gross revenue (A$'000) | 115,371 | 137,869 | 147,633 | 145,119 | 146,871 | 165,853 | 36,848 |
| Royalty rate (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| RCF royalty (A$'000) | 2,307 | 2,757 | 2,953 | 2,902 | 2,937 | 3,317 | 737 |
| 20% withholding tax | 577 | 689 | 738 | 726 | 734 | 829 | 184 |
| **Total (A$'000)** | **2,884** | **3,447** | **3,691** | **3,628** | **3,672** | **4,146** | **921** |

**Source:** Adjusted Model

### Metals Royalty

The Metals Royalty is a 2% royalty on net revenue payable by Wolf to the owners of the land on which the Hemerdon Project is located. The table below shows the forecast royalty to be paid over the life of mine.

| Period | Forecast CY2016 | Forecast CY2017 | Forecast CY2018 | Forecast CY2019 | Forecast CY2020 | Annual Average CY2021 - CY2026 | Forecast CY2027 |
|---|---|---|---|---|---|---|---|
| Net revenue (A$'000) | 109,814 | 133,070 | 143,535 | 141,249 | 143,236 | 162,793 | 36,293 |
| Royalty rate (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| **Metal Royalty (A$'000)** | **2,196** | **2,661** | **2,871** | **2,825** | **2,865** | **3,256** | **726** |

**Source:** Adjusted Model

### Taxation

#### Corporate tax

Tax has been applied to the Model in accordance with relevant legislation which, in this case, is the United Kingdom. Corporate tax rate of 21% was used in the Model. The tax calculation in the Model does not take into account the effect of brought forward tax losses.

## 10.4 DCF valuation – discount rate

The Adjusted Model includes all cash inflows and outflows relating to debt and therefore the cash flows we are discounting are the cash flows to equity holders. We have therefore selected a nominal after tax discount rate of 12% which represents our assessment of Wolf's cost of equity, to discount the forecast cash flows to their present value in our base case.

In our sensitivity analysis, we have adopted a discount rate range of 10% to 14%.

In selecting this range of discount rates we considered the following:

- the rates of return for comparable ASX listed tungsten and tin companies; and
- the risk profile of Wolf as compared to other tungsten and tin companies.

Details on our discount rate determination are provided in Appendix 3.

## 10.5 DCF Valuation – sensitivities

The estimated value of the Project is derived under the DCF approach. Our valuation is highly sensitive to changes in the forecast tungsten and tin prices and discount rate. We have therefore included an analysis to consider the value of the Project under various pricing scenarios and in applying:

- a change of +/- 10% to the tungsten price;
- a change of +/- 10% to the tin price;
- a change of +/- 10% to the tungsten grade;
- a change of +/- 10% to the tin grade;
- a change of +/- 10% to tungsten recovery percentages;
- a change of +/- 10% to tin recovery percentages;
- a change of +/- 10% to operating costs;
- a change of +/- 10% to capital costs;
- a change of +/- 10% to the USD:AUD exchange rate;
- a change of +/- 10% to the GBP:AUD exchange rate; and
- a discount rate in the range of 10% to 14%.

The following table sets out the valuation outcomes from our DCF analysis:

| Sensitivity Analysis | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Flex | NPV (A$m) | NPV (A$m) | NPV (A$m) | NPV (A$m) | NPV (A$m) | NPV (A$m) | NPV (A$m) | NPV (A$m) | NPV (A$m) | NPV (A$m) |
| | Tungsten Price | Tin Price | Tungsten Grade | Tin Grade | Tungsten Recovery | Tin Recovery | Operating Costs | Capital Costs | Exchange Rate (USD:AUD) | Exchange Rate (GBP:AUD) |
| -10% | 139.87 | 194.33 | 135.41 | 195.58 | 135.41 | 195.58 | 238.68 | 201.30 | 276.16 | 156.42 |
| -8% | 152.13 | 195.46 | 148.37 | 196.46 | 148.37 | 196.46 | 230.94 | 201.09 | 259.61 | 165.99 |
| -6% | 164.13 | 196.59 | 161.30 | 197.34 | 161.30 | 197.34 | 223.21 | 200.86 | 243.76 | 175.06 |
| -4% | 176.29 | 197.72 | 174.22 | 198.22 | 174.22 | 198.22 | 215.47 | 200.30 | 228.57 | 183.74 |
| -2% | 188.19 | 198.85 | 187.11 | 199.09 | 187.11 | 199.09 | 207.72 | 200.14 | 213.98 | 192.04 |
| 0% | 199.97 | 199.97 | 199.97 | 199.97 | 199.97 | 199.97 | 199.97 | 199.97 | 199.97 | 199.97 |
| 2% | 211.54 | 201.10 | 212.83 | 200.85 | 212.83 | 200.85 | 192.21 | 199.80 | 186.50 | 207.58 |
| 4% | 223.52 | 202.23 | 225.67 | 201.73 | 225.67 | 201.73 | 184.44 | 199.64 | 173.51 | 214.88 |
| 6% | 235.09 | 203.36 | 238.51 | 202.61 | 238.51 | 202.61 | 176.65 | 199.47 | 160.99 | 222.28 |
| 8% | 246.59 | 204.48 | 251.35 | 203.49 | 251.35 | 203.49 | 168.84 | 199.30 | 148.92 | 229.10 |
| 10% | 258.77 | 205.61 | 264.18 | 204.36 | 264.18 | 204.36 | 161.03 | 199.12 | 137.27 | 235.66 |

**Source:** BDO analysis

| Discount rate sensitivity | | | | | |
|---|---|---|---|---|---|
| **Discount rate (%)** | 10% | 11% | 12% | 13% | 14% |
| **NPV (A$m)** | 224.02 | 211.50 | 199.97 | 189.97 | 179.55 |

**Source:** BDO analysis

Based on our analysis, we consider the DCF value of the Hemerdon Project (ore reserves only) to equity holders is in the range from $180 million to $220 million with a preferred value of $200 million.

## 10.6 Value of Additional Resources

The Adjusted Model only assumes a life of mine based on the current declared reserves. It is reasonable to assume that the measured and indicated resources can be converted to a reserve to extend the life of mine. In order to calculate the value of resources not included in the Adjusted Model, we have extended the life of mine in the Adjusted Model based on information provided to us by Micon (**'Extended Model'**). Micon has assessed that the additional resources would result in a five-year extension to the life of mine.

We calculated the value of the resources not included in the model as the difference between the DCF value of the Adjusted Model (ore reserves only) and the DCF value of the Extended Model (ore reserves together with measured and indicated resources only).

Using the mining assumptions provided to us by Micon (see Appendix 4 for Micon's Technical Assessment and Valuation Report) we have calculated the value of the resources as follows:

| | Low Value $m | Mid Value $m | High Value $m |
|---|---|---|---|
| DCF value of Model (reserves only) | 180.0 | 200.0 | 220.0 |
| DCF value of Extended Model (reserves and resources) | 210.0 | 240.0 | 270.0 |
| **Value of resources not included in Model** | **30.0** | **40.0** | **50.0** |

**Source:** Micon's Technical Assessment and Valuation Report and BDO analysis

## 10.7 Value of Remnant Resources

Micon has independently valued the remnant resources outside the 18-year optimised pit, which are not included in our valuation in sections 10.5 and 10.6. These remnant resources comprise measured and indicated resources outside the 18-year optimised pit but largely inferred resources. Micon used an adapted market approach and the multiple of exploration expenditure method to value the remnant resources. Their valuation is set out in the table below:

| | Low Value | Preferred Value | High Value |
|---|---|---|---|
| Value of remnant resources (£ millions) | 10.3 | 11.9 | 13.1 |
| GBP to AUD exchange rate (1 GBP : X AUD) | 2.02 | 2.02 | 2.02 |
| **Value of remnant resources (A$m)** | **20.8** | **24.0** | **26.5** |

**Source:** Micon's Technical Assessment and Valuation Report and BDO analysis

Please refer to Appendix 4 for Micon's Independent Technical Assessment and Valuation Report.

## 10.8 Other Assets and Liabilities

Other assets and liabilities represent the assets and liabilities which have not been specifically adjusted. From review of these other assets and liabilities, we do not believe that there is a material difference between their book value and their fair value unless an adjustment has been noted below.

| Statement of Financial Position | Notes | Reviewed as at 31-Dec-15 $ | Adjusted value of other assets and liabilities $ |
|---|---|---|---|
| CURRENT ASSETS | | | |
| Cash and cash equivalents | | 31,638,885 | 31,638,885 |
| Trade and other receivables | a | 7,252,523 | 7,252,523 |
| Inventory | b | 1,269,683 | 1,269,683 |
| TOTAL CURRENT ASSETS | | 40,161,091 | 40,161,091 |
| NON-CURRENT ASSETS | | | |
| Property, plant and equipment | c | 309,173,252 | - |
| Other non-current assets | d | 19,900,851 | 19,900,851 |
| TOTAL NON-CURRENT ASSETS | | 329,074,103 | 19,900,851 |
| TOTAL ASSETS | | 369,235,194 | 60,061,942 |
| CURRENT LIABILITIES | | | |
| Trade and other payables | e | 18,848,518 | 18,848,518 |
| Provisions | | 177,526 | 177,526 |
| Derivative financial instruments | f | 2,812,220 | 2,812,220 |
| Borrowings | g | 129,040,908 | - |
| TOTAL CURRENT LIABILITIES | | 150,879,172 | 21,838,264 |
| NON-CURRENT LIABILITIES | | | |
| Provisions | h | 5,291,756 | 5,291,756 |
| Derivative financial instruments | f | 3,536,066 | 3,536,066 |
| TOTAL NON-CURRENT LIABILITIES | | 8,827,822 | 8,827,822 |
| TOTAL LIABILITIES | | 159,706,994 | 30,666,086 |
| **Net Assets/(Liabilities)** | | **209,528,200** | **29,395,856** |

**Source:** BDO analysis

The following adjustments were made to determine the value of other assets and liabilities that have not been accounted for in the Adjusted Model.

Note a: Trade and other receivables

During the six months to 31 December 2015, we note that the Hemerdon Project moved from development to production phase. As these trade and other receivables have not been included in our DCF valuation, we have retained this balance in other assets and liabilities.

Note b: Inventory

As noted above, the Hemerdon Project moved from development to production phase during the six months to 31 December 2015 and the inventory balance has not been included in our DCF valuation. We have therefore retained this balance in other assets and liabilities.

Note c: Property, plant and equipment

As the Hemerdon Project moved from development to production phase during the six months to 31 December 2015, the mine development asset balance was moved to the property, plant and equipment balance as at 31 December 2015. We have valued the Hemerdon Project using a DCF in section 10.5 and, therefore, we have removed the property, plant and equipment balance from other assets and liabilities.

Note d: Non-current other assets

Non-current other assets mainly comprise bonds in relation to the rehabilitation and restoration of the Hemerdon Project, which have not been accounted for in our DCF valuation.

Note e: Trade and other payables

As these trade and other payables have not been included in our DCF valuation, we have retained this balance in other assets and liabilities.

Note f: Derivative financial assets and liabilities

Derivative financial liabilities (current and non-current) comprise amortising interest rate swaps and forward foreign exchange contracts (cash flow hedges). We have retained these balances in other assets and liabilities as these balances have not been included in our DCF valuation.

Note g: Borrowings

The interest-bearing liabilities in the balance sheet relate to amounts owing under the Senior Facility Documents. We have removed this liability on the basis that the debt cash flows are already included in our DCF valuation.

Note h: Provisions

Non-current provisions of $5.13 million mainly comprise rehabilitation provision which have not been accounted for in our DCF valuation.

## 10.9 Number of Wolf Shares on issue

In the Sum-of-Parts valuation approach to derive the Pre-Transaction value, we take into account the additional capital that Wolf will have to raise without the provision of the additional funding from Resource Capital Fund VI LP under the Proposed Transaction. On this basis, Wolf will require this additional capital (of up to A$50.5 million) to be raised through alternative methods in order to meet the funding requirements to ramp up the Hemerdon Project and to facilitate the Company's debt repayments.

We have considered the likely price at which Wolf will have to place its shares to a third party or to current shareholders under a capital raising to raise the capital required. Whilst we understand that it may not be likely for Wolf to raise capital in this manner, we are required by RG111.15 to assess the funding requirements for a company that is not in financial distress when considering its value, especially when using the DCF methodology. Therefore, we have assumed a 'notional' capital raising that is likely to result in significant dilution for the Company in order to raise this capital.

To determine the likely issue price, we considered the volume weighted average trading price of Wolf's shares and the discount at which shares have been issued by ASX listed companies when compared with the companies' share prices the day prior to the announcement of the capital raising.

We considered the discount at which shares have been issued over the past two years by ASX listed mining companies with market capitalisations of between A$100 million to A$200 million (a band in which Wolf's market capitalisation falls in). From our analysis, the average discount was approximately 20 per cent. This analysis is summarised in the table below:

| | Details |
|---|---|
| Number of capital raisings | 35 |
| Average raising amount | $16.9 million |
| Average market capitalisation | $145.5 million |
| **Average discount** | **20%** |

**Source:** BDO analysis and Bloomberg

Based on our analysis, we consider a discount of 20 per cent to be reasonable.

We have applied a 20 per cent discount to Wolf's share price of $0.180, being the mid-point value per share derived under the QMP methodology in section 10.10. This share price reflects Wolf's trading price prior to the announcement of the Proposed Transaction. The assumed capital raising price that we have adopted is therefore $0.144 per share.

In order to raise an equivalent A$50.5 million to provide funding to develop the Hemerdon Project, 350,694,444 new shares will need to be issued at $0.144 per share.

In addition to the 809,422,200 shares on issue at 30 June 2015, we note that Wolf issued 124,593 shares to the Company's Non-Executive Directors on 20 November 2015 for nil consideration and an additional 177,967 shares on 8 January 2016, also for nil consideration. Therefore, we have adjusted the total number of shares on issue to be 1,160,419,204 to include these issues.

A summary of the adjustment to Wolf's shares on issue is provided in the table below:

| Shares on issue | Number |
|---|---|
| Shares on issue at 30-Jun-15 | 809,422,200 |
| Add: Issue of ordinary shares to the Company's Non-Executive Directors on 20-Nov-15 | 124,593 |
| Add: Issue of ordinary shares to the Company's Non-Executive Directors on 8-Jan-16 | 177,967 |
| Number of shares required to be issued for capital raising (A$50.5 million) | 350,694,444 |
| Shares on issue | 1,160,419,204 |

**Source:** Wolf's financial statements for the year ended 30 June 2015, Wolf's Appendix 3B dated 20 November 2015, Wolf's Appendix 3B dated 8 January 2016 and BDO analysis

## 10.10 Quoted Market Prices for Wolf Securities

Wolf is listed on both the ASX and AIM. Therefore in order to provide a comparison to the valuation of Wolf in Section 10.1, we have performed a quoted price analysis on Wolf's shares for both the ASX and AIM.

The quoted market value of a company's shares is reflective of a minority interest. A minority interest is an interest in a company that is not significant enough for the holder to have an individual influence in the operations and value of that company.

RG 111.11 suggests that when considering the value of a company's shares for the purposes of approval under Item 7 of s611 the expert should consider a premium for control. An acquirer could be expected to pay a premium for control due to the advantages they will receive should they obtain 100% control of another company. These advantages include the following:

- control over decision making and strategic direction;
- access to underlying cash flows;
- control over dividend policies; and
- access to potential tax losses.

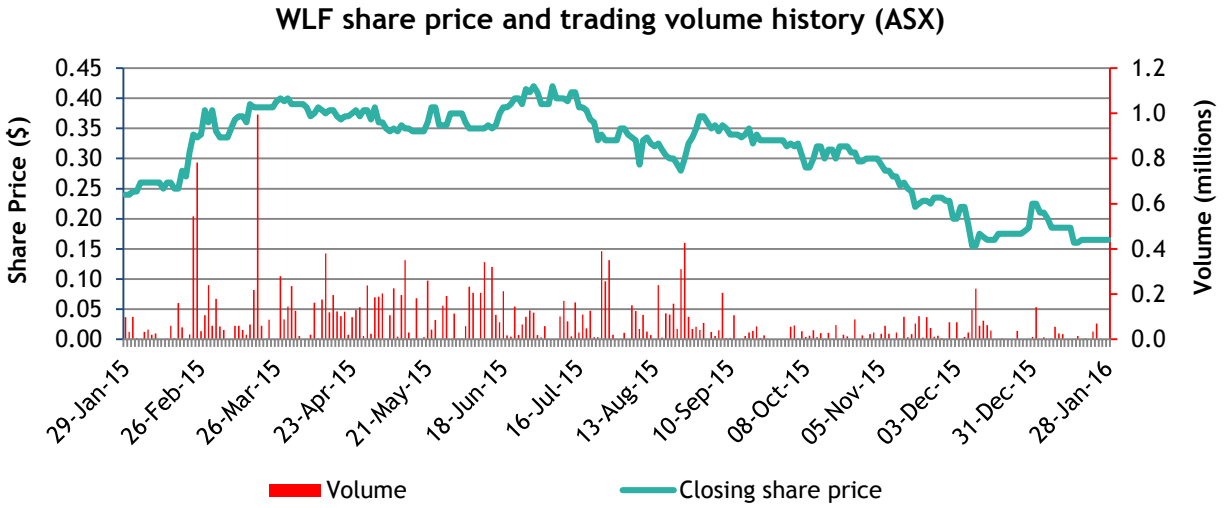
Whilst RCF may not be obtaining 100% of Wolf, RG 111 states that the expert should calculate the value of a target's shares as if 100% control were being obtained. RG 111.13 states that the expert can then consider an acquirer's practical level of control when considering reasonableness. Reasonableness has been considered in Section 13.

Therefore, our calculation of the quoted market price of a Wolf share including a premium for control has been prepared in two parts. The first part is to calculate the quoted market price on a minority interest basis. The second part is to add a premium for control to the minority interest value to arrive at a quoted market price value that includes a premium for control.

### Minority interest value

Our analysis of the quoted market price of a Wolf share is based on the pricing prior to the announcement of the Proposed Transaction. This is because the value of a Wolf share after the announcement may include the effects of any change in value as a result of the Proposed Transaction. However, we have considered the value of a Wolf share following the announcement when we have considered reasonableness in Section 13.

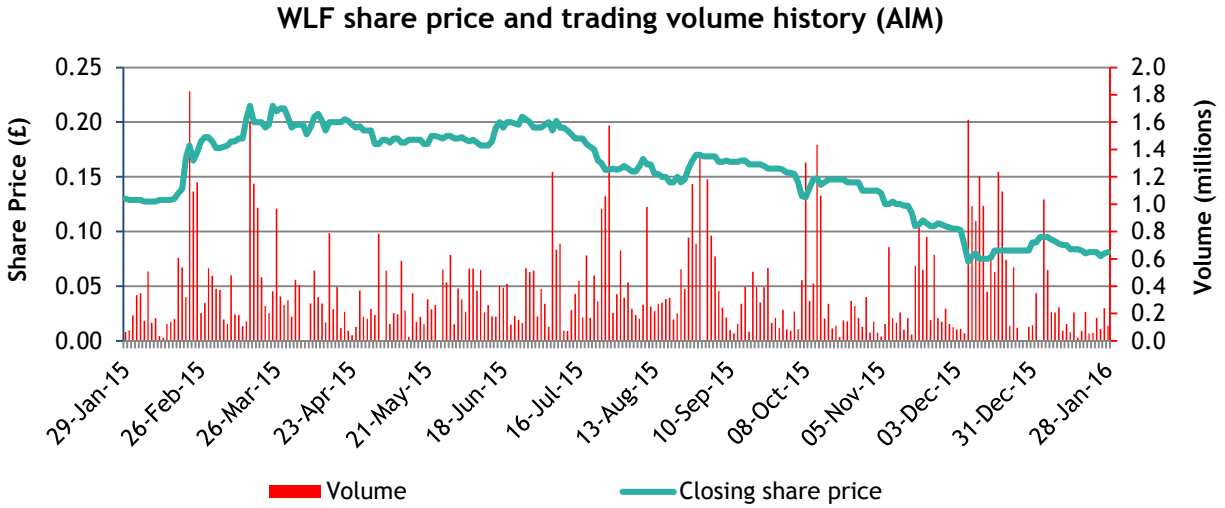
Information on the Proposed Transaction was announced to the market on 29 January 2016. Therefore, the following charts provide a summary of the share price movements on the ASX and AIM, over the 12 months to 28 January 2016, which was the last trading day prior to the announcement.




**Source:** Bloomberg

The daily price of Wolf shares on the ASX, from 28 January 2015 to 28 January 2016 has ranged from a low of $0.150 on 10 December 2015 to a high of $0.450 on 29 June 2015. On 23 February 2015, Wolf held its United Kingdom Investor Roadshow, which detailed that construction of the Hemerdon Project was nearing completion. Subsequently, the share price entered an upswing and reached a high of $0.450 in June 2015.

Since then, Wolf's share price has exhibited a downward trend and the volume of shares traded has decreased. The most significant trading volumes were experienced in February and March of 2015, with the highest single day of trading occurring on 18 March 2015 where 994,489 shares were traded.




**Source:** Bloomberg

The daily price of Wolf shares on the AIM, from 28 January 2015 to 28 January 2016 has ranged from a low of £0.073 on 11 December 2015 to a high of £0.225 on 25 March 2015. The most significant trading volumes were experienced in February and March of 2015, with the highest single day of trading occurring on 18 March 2015 where 1,824,876 shares were traded.

During this period a number of announcements were made to the market. The key announcements are set out as follows.

| Date | Announcement | Closing Share Price Following Announcement | | | Closing Share Price Three Days After Announcement | | |
|---|---|---|---|---|---|---|---|
| | | $ (movement) | | | $ (movement) | | |
| 28/10/2015 | Quarterly Report - 3 Months Ended 30 September 2015 | 0.295 | ▼ | 4.8% | 0.300 | ▲ | 1.7% |
| 28/10/2015 | Appendix 5B - Quarter Ended 30 September 2015 | 0.295 | ▼ | 4.8% | 0.300 | ▲ | 1.7% |
| 23/09/2015 | Commissioning Complete at Hemerdon Project | 0.330 | ▶ | 0.0% | 0.330 | ▶ | 0.0% |
| 01/09/2015 | First Tungsten Concentrates Produced at Hemerdon Project | 0.370 | ▶ | 0.0% | 0.355 | ▼ | 4.1% |
| 30/07/2015 | Quarterly Report for 3 Months Ended 30 June 2015 | 0.330 | ▶ | 0.0% | 0.340 | ▲ | 3.0% |
| 30/07/2015 | Appendix 5B - Quarter Ended 30 June 2015 | 0.330 | ▶ | 0.0% | 0.340 | ▲ | 3.0% |
| 25/06/2015 | Wet Commissioning Underway at Hemerdon Project | 0.390 | ▼ | 2.5% | 0.420 | ▲ | 7.7% |
| 24/04/2015 | Appendix 5B - Quarter Ended 31 March 2015 | 0.380 | ▲ | 1.3% | 0.380 | ▶ | 0.0% |
| 24/04/2015 | Quarterly Report for the 3 Months Ended 31 March 2015 | 0.380 | ▲ | 1.3% | 0.380 | ▶ | 0.0% |
| 21/04/2015 | Hemerdon Project ISO 14001 Certification | 0.370 | ▲ | 1.4% | 0.380 | ▲ | 2.7% |
| 25/03/2015 | 34 Percent Increase in Ore Reserves at Hemerdon Project | 0.385 | ▶ | 0.0% | 0.395 | ▲ | 2.6% |
| 24/03/2015 | Wolf Receives Temporary Go Ahead for 7 Day Working at Mine | 0.385 | ▶ | 0% | 0.400 | ▲ | 4% |
| 06/03/2015 | S&P DJ Indices Announces March Quarterly Review | 0.335 | ▶ | 0% | 0.365 | ▲ | 9% |
| 27/02/2015 | Half Year Highlights for 6 Months Ending 31 Dec 2014 | 0.380 | ▲ | 12% | 0.345 | ▼ | 9% |
| 23/01/2015 | WLF Appendix 5B for Quarter Ended 31 Dec 2014 | 0.235 | ▶ | 0% | 0.240 | ▲ | 2% |
| 23/01/2015 | WLF Quarterly Report for 3 Months Ended 31 Dec 2014 | 0.235 | ▶ | 0% | 0.240 | ▲ | 2% |

**Source:** ASX announcements and BDO analysis

On 28 October 2015, Wolf released its quarterly report for the three months ended 30 September 2015 and accompanying Appendix 5B. Highlights for the September 2015 quarter included completion of the processing plant at Drakelands and hand over from GR Engineering for full operational control of the processing plant. The market reacted negatively to this announcement with Wolf's share price declining by 4.8% that day. Considering the seemingly positive nature of this news, we consider this to be an unexplained movement in Wolf's share price.

On 1 September 2015, Wolf announced that the first tungsten concentrates had been produced at the Hemerdon Project. Wolf's share price remained unchanged on the day of the announcement, however increased by 4.1% over the three days subsequent.

On 24 March 2015, the Company received temporary approval for seven day working at the Drakelands Mine. Wolf's share price remained unchanged at $0.385 on the day of the announcement; however the share price three days later was $0.400, an increase of 4%.

On 6 March 2015, S&P Dow Jones Indices announced the quarterly rebalance of the S&P/ASX Indices, which included the addition of Wolf to the ASX All Ordinaries Index. Initially the market did not respond to the announcement with no movements in Wolf's share price that day. However, the share price increased by 9% over the three days subsequent to close at $0.365.

On 27 February 2015, Wolf released its half year highlights and financial accounts for the six months ended 31 December 2014. The market responded positively to this information with Wolf's share price increasing by 12% to $0.380. In the three days subsequent, Wolf's share price declined by 9% to close at $0.345.

To provide further analysis of the market prices for a Wolf share, we have also considered the weighted average market price for 10, 30, 60 and 90 day periods to 28 January 2016.

| ASX | 28-Jan-16 | 10 Days | 30 Days | 60 Days | 90 Days |
|---|---|---|---|---|---|
| Closing price | $0.165 | | | | |
| Volume weighted average price (VWAP) | | $0.166 | $0.190 | $0.203 | $0.230 |

**Source:** Bloomberg, BDO analysis

| AIM | 28-Jan-16 | 10 Days | 30 Days | 60 Days | 90 Days |
|---|---|---|---|---|---|
| Closing price | £0.081 | | | | |
| Volume weighted average price (VWAP) | | £0.081 | £0.086 | £0.091 | £0.106 |

**Source:** Bloomberg, BDO analysis

The above weighted average prices are prior to the date of the announcement of the Proposed Transaction, to avoid the influence of any change in price of Wolf shares that has occurred since the Proposed Transaction was announced.

An analysis of the volume of trading in Wolf shares for the twelve months to 28 January 2016 is set out below:

| ASX | Share price low | Share price high | Cumulative volume traded | As a % of Issued capital |
|---|---|---|---|---|
| 1 Day | $0.165 | $0.165 | - | 0.00% |
| 10 Days | $0.160 | $0.175 | 124,879 | 0.02% |
| 30 Days | $0.160 | $0.225 | 437,606 | 0.05% |
| 60 Days | $0.150 | $0.280 | 1,771,091 | 0.22% |
| 90 Days | $0.150 | $0.330 | 2,405,223 | 0.30% |
| 180 Days | $0.150 | $0.450 | 10,085,996 | 1.25% |
| 1 Year | $0.150 | $0.450 | 19,355,134 | 2.39% |

**Source:** Bloomberg, BDO analysis

| AIM | Share price low | Share price high | Cumulative volume traded | As a % of Issued capital |
|---|---|---|---|---|
| 1 Day | £0.080 | £0.081 | 397,795 | 0.05% |
| 10 Days | £0.078 | £0.084 | 1,418,525 | 0.18% |
| 30 Days | £0.078 | £0.100 | 7,099,955 | 0.88% |
| 60 Days | £0.073 | £0.133 | 21,413,601 | 2.64% |
| 90 Days | £0.073 | £0.158 | 29,830,090 | 3.68% |
| 180 Days | £0.073 | £0.205 | 66,094,376 | 8.16% |
| 1 Year | £0.073 | £0.225 | 94,159,706 | 11.63% |

**Source:** Bloomberg, BDO analysis

The above tables indicate that Wolf's shares display a low level of liquidity, with only 2.39% of the Company's current issued capital on the ASX and 11.63% on the AIM being traded in a twelve-month

period. For the quoted market price methodology to be reliable there needs to be a 'deep' market in the shares. RG 111.69 indicates that a 'deep' market should reflect a liquid and active market. We consider the following characteristics to be representative of a deep market:

- Regular trading in a company's securities;
- Approximately 1% of a company's securities are traded on a weekly basis;
- The spread of a company's shares must not be so great that a single minority trade can significantly affect the market capitalisation of a company; and
- There are no significant but unexplained movements in share price.

A company's shares should meet all of the above criteria to be considered 'deep', however, failure of a company's securities to exhibit all of the above characteristics does not necessarily mean that the value of its shares cannot be considered relevant.

In the case of Wolf, we do not consider there to be a deep market for the Company's shares as a result of only 2.39% of the Company's issued capital being traded on the ASX and 11.63% being traded on the AIM, over the twelve months prior to the announcement of the Proposed Transaction.

Our assessment is that the range of values for Wolf shares based on market pricing, after disregarding prices after the announcement of the Proposed Transaction, is between $0.155 and $0.175 on the ASX.

## Control Premium

The quoted market price per share reflects the value to a minority interest shareholder. In order to value a Wolf share on a control basis, we have added a control premium that is based on our analysis set out below.

We have reviewed the control premiums paid by acquirers of all companies listed on the ASX as well as the control premium paid by acquirers of general mining companies listed on the ASX. We have summarised our findings below:

***All ASX Companies***

| Year | Number of Transactions | Average Deal Value (AU$m) | Average Control Premium (%) |
|---|---|---|---|
| 2015 | 18 | 1012.72 | 23.55 |
| 2014 | 43 | 463.35 | 31.16 |
| 2013 | 43 | 177.79 | 43.36 |
| 2012 | 55 | 322.52 | 37.03 |
| 2011 | 67 | 766.18 | 48.45 |
| 2010 | 69 | 741.25 | 37.60 |
| 2009 | 64 | 328.15 | 46.22 |
| 2008 | 42 | 743.72 | 39.04 |
| 2007 | 63 | 1262.32 | 22.68 |
| | **Mean** | **646.44** | **36.57** |
| | **Median** | **741.25** | **37.60** |

**Source:** Bloomberg, BDO analysis

The above table indicates that the long term average control premium paid by acquirers of all companies on the ASX is approximately 36.57%.

*General ASX Mining Companies*

| Year | Number of Transactions | Average Deal Value (AU$m) | Average Control Premium (%) |
|---|---|---|---|
| 2015 | 9 | 245.05 | 17.23 |
| 2014 | 17 | 144.31 | 33.59 |
| 2013 | 20 | 51.30 | 42.27 |
| 2012 | 22 | 234.98 | 41.81 |
| 2011 | 21 | 605.51 | 40.47 |
| 2010 | 25 | 735.82 | 43.27 |
| 2009 | 31 | 469.71 | 39.57 |
| 2008 | 9 | 504.97 | 32.51 |
| 2007 | 27 | 504.16 | 27.64 |
| | **Mean** | **388.42** | **35.37** |
| | **Median** | **469.71** | **39.57** |

**Source:** Bloomberg, BDO analysis

The above table indicates that the long term average control premium paid by acquirers of mining companies on the ASX is approximately 35.37%.

In arriving at an appropriate control premium to apply, we note that observed control premiums can vary due to the:

- nature and magnitude of non-operating assets;
- nature and magnitude of discretionary expenses;
- perceived quality of existing management;
- nature and magnitude of business opportunities not currently being exploited;
- ability to integrate the acquiree into the acquirer's business;
- level of pre-announcement speculation of the transaction; and
- level of liquidity in the trade of the acquiree's securities.

In the case of Wolf, we have taken the following considerations into account:

- Over the twelve months prior to the announcement of the Transaction, only 2.39% of the Company's issued capital on the ASX was traded and 11.63% of the issued capital on the AIM was traded. Furthermore Wolf's shares have traded irregularly with periods of no trade activity at all.
- Wolf has only recently transitioned from a development company to a producer, with commissioning at the Drakelands Mine commencing in July 2015. Consequently, the Company has extensive debt relating to the project that will need to be repaid.
- Wolf's auditor issued an emphasis of matter in the financial report for the year ended 30 June 2015. The auditor outlined the existence of material uncertainty in relation to the Company's ability to continue as a going concern and whether it can realise its assets and extinguish it liabilities, in the normal course of business, at the amounts stated in the financial report.

In determining the premium for control to be paid by RCF, we have taken the above analysis into account. We believe an appropriate control premium to apply to our valuation is between 25% and 35%.

## Quoted market price including control premium

Applying a control premium to Wolf's quoted market share price results in the following quoted market price value including a premium for control:

| | Low<br>$ | Midpoint<br>$ | High<br>$ |
|---|---|---|---|
| Quoted market price value | 0.155 | 0.165 | 0.175 |
| Control premium | 25% | 30% | 35% |
| **Quoted market price valuation including a premium for control** | **0.194** | **0.215** | **0.236** |

**Source:** BDO analysis

Therefore, our valuation of a Wolf share based on the quoted market price method and including a premium for control is between $0.194 and $0.236, with a midpoint value of $0.215.

## 10.11 Assessment of Wolf Value

The results of the valuations performed are summarised in the table below:

| | Low<br>$ | Preferred<br>$ | High<br>$ |
|---|---|---|---|
| Sum of Parts (section 10.1) | 0.268 | 0.296 | 0.324 |
| QMP method (section 10.10) | 0.194 | 0.215 | 0.236 |

**Source:** BDO analysis

We note the values obtained under the QMP method are lower than the values obtained from the Sum-of-Parts method. The difference between the values obtained under the QMP method and the Sum-of-Parts method may be explained by the following:

- the QMP value may be depressed by the general financial market sentiment held by investors of the mining industry as a whole and may not reflect the fundamental strength or potential of the Company to realise value from its Hemerdon Project;
- the QMP value may have taken into account investors' less optimistic sentiment on the current low commodity prices and they may hold different views on the assumptions of the Hemerdon Project;
- the QMP value is also likely to reflect the lack of transparency of forecast tungsten prices (as they are not traded on an exchange), making it difficult for investors to obtain exact information about tungsten prices; and
- our analysis in section 10.10 shows that the liquidity for Wolf shares was only low and therefore an absence of sufficiently active trading market to reflect a fair market value of the Company's shares.

Therefore, we consider the Sum-of-Parts method to be the most appropriate method to value a Wolf share if the Transaction is not approved. Based on our analysis, we consider the value of a Wolf share on a control basis to be between $0.268 and $0.324, with a preferred value of $0.296.

# 11. Valuation of Wolf after the Proposed Transaction

We have employed the Sum-of-Parts method in estimating the fair market value of a Wolf share on a control basis following the Proposed Transaction by aggregating the estimated fair market values of its underlying assets and liabilities, having consideration to the following:

- value of Wolf's interest in the Hemerdon Project under the current pit design of a 13-year life of mine (ore reserves only);
- value of Wolf's additional resources that have not been included in the life of mine of the current pit design;
- value of Wolf's remnant resources at the Hemerdon Project beyond the 18-year optimised pit, which comprises largely inferred resources;
- amount of cash received from the Proposed Transaction;
- amount of Wolf's corporate costs (included in the cash flows of the Hemerdon Project); and
- value of other assets and liabilities of Wolf.

## 11.1 Sum of Parts valuation of Wolf

The value of Wolf's assets on a going concern basis is reflected in our valuation below:

| Summary of Assessment | Section | Low $m | Preferred $m | High $m |
|---|---|---|---|---|
| DCF value of Hemerdon Project to equity holders | 11.2 | 180.0 | 200.0 | 220.0 |
| Value of additional resources | 11.3 | 30.0 | 40.0 | 50.0 |
| Value of remnant resources | 11.4 | 20.8 | 24.0 | 26.5 |
| Amount of cash received from the Proposed Transaction | 11.6 | 50.5 | 50.5 | 50.5 |
| Other assets and liabilities | 11.5 | 29.4 | 29.4 | 29.4 |
| **Value of Wolf under on a control basis** | | **310.7** | **343.9** | **376.4** |
| Minority discount | | 26% | 23% | 20% |
| **Value of Wolf on a minority basis** | | **229.9** | **264.8** | **301.1** |
| Number of Wolf shares (million) | 11.6 | 1,081.760 | 1,081.760 | 1,081.760 |
| **Value per share ($)** | | **0.213** | **0.245** | **0.278** |

**Source:** BDO analysis

The table above indicates that the value of a Wolf share on a minority basis Post-Transaction is between $0.213 and $0.278, with a preferred value of $0.245.

The value of a Wolf share derived under the Sum-of-Parts method is reflective of a controlling interest. This suggests that the acquirer obtains an interest in the company which allows them to have an individual influence in the operations and value of that company. However, if the Proposed Transaction is approved, the current Shareholders will be minority holders in Wolf, meaning that their individual holding will not be considered significant enough to have an individual influence in the operations and value of that company.

Therefore, we have adjusted our valuation of a Wolf share to reflect a minority interest holding. The minority discount is based on the inverse of the control premium of 25% to 35% as set out in section 10.10 of this report.

## 11.2 DCF Valuation of the Hemerdon Project

Our DCF valuation of the Hemerdon Project after the Proposed Transaction has been completed on the same basis as the valuation prior to the Proposed Transaction. Refer to section 10.5 for the details regarding the DCF value of the Hemerdon Project.

## 11.3 Value of Life of Mine Extension

The value of the extension to the life of mine after the Proposed Transaction is the same as the value prior to the Proposed Transaction. Refer to section 10.6 for further details regarding the value of the extension to the life of mine in the Adjusted Model.

## 11.4 Value of Remnant Resources

The value of the remnant resources after the Proposed Transaction is the same as the value prior to the Proposed Transaction. Refer to section 10.7 for further details regarding the value of remnant resources not included in the Adjusted Model or Extended Model.

## 11.5 Other Assets and Liabilities

The value of other assets and liabilities after the Proposed Transaction is the same as the value prior to the Proposed Transaction. Refer to section 10.8 for further details regarding the value of other assets and liabilities.

## 11.6 Number of Wolf shares on issue

Under the Proposed Transaction, Resource Capital Fund VI LP will subscribe for shares in Wolf to provide up to £25 million in funds to the Company at an issue price of 9.19 pence per share (approximately A$0.19 per share). This is equivalent to A$50,500,000 at an exchange rate of 1 GBP: 2.02 AUD as at 28 January 2016. This also translates to an issue of 272,034,820 new shares to Resource Capital Fund VI LP.

In addition to the 809,422,200 shares on issue at 30 June 2015, we note that Wolf issued 124,593 shares to the Company's Non-Executive Directors on 20 November 2015 for nil consideration and an additional 177,967 shares on 8 January 2016, also for nil consideration. Therefore, we have adjusted the total number of shares on issue to be 1,081,759,580. A summary of the adjustment to Wolf's shares on issue is provided in the table below:

| Shares on issue | $ |
|---|---|
| Shares on issue at 30-Jun-15 | 809,422,200 |
| Add: Issue of ordinary shares to the Company's Non-Executive Directors on 20-Nov-15 | 124,593 |
| Add: Issue of ordinary shares to the Company's Non-Executive Directors on 8-Jan-16 | 177,967 |
| Number of shares required to be issued under the Transaction | 272,034,820 |
| Shares on issue | 1,081,759,580 |

**Source:** Wolf's financial statements for the year ended 30 June 2015, Wolf's Appendix 3B dated 20 November 2015, Wolf's Appendix 3B dated 8 January 2016 and BDO analysis

# 12. Is the Proposed Transaction Fair?

In assessing the fairness of the Proposed Transaction, RG 111.31 stipulates that in a control transaction a comparison should be made between the value of the target entity's securities prior to the transaction on a controlling basis and the value of the target entity's securities following the transaction allowing for a minority discount.

The value of a Wolf share if the Proposed Transaction is not approved on a control basis and the value of a Wolf share if the Proposed Transaction is approved on a minority interest basis are compared below.

| | Ref | Low<br>$ | Preferred<br>$ | High<br>$ |
|---|---|---|---|---|
| Value of a Wolf share if the Proposed Transaction is not approved on a control basis | 10.11 | 0.268 | 0.296 | 0.324 |
| Value of a Wolf share if the Proposed Transaction is approved on a minority basis | 11.1 | 0.213 | 0.245 | 0.278 |

**Source:** BDO analysis

We note from the table above that the Pre-Transaction value of a Wolf share is higher than the Post-Transaction value of a Wolf share. Therefore, we consider that the Proposed Transaction is not fair.

# 13. Is the Proposed Transaction reasonable?

## 13.1 Advantages of approving the Proposed Transaction

We have considered the following advantages when assessing whether the Proposed Transaction is reasonable.

### 13.1.1 Minority interest value of a Wolf share if the Proposed Transaction is approved is higher than the minority interest value of a Wolf share if the Proposed Transaction is not approved.

As the Proposed Transaction is considered to be a control transaction, RG 111.31 stipulates that in a control transaction a comparison should be made between the value of the target entity's securities prior to the transaction on a controlling basis and the value of the target entity's securities following the transaction allowing for a minority discount. It is relevant for Shareholders to appreciate that as Shareholders, they hold a minority interest in Wolf if the Proposed Transaction is not approved and they will retain a minority interest if the Proposed Transaction is approved.

We have provided a comparison of the value of a Wolf share if the Proposed Transaction is approved and the value of a Wolf share if the Proposed Transaction is not approved both on a minority interest basis. Our value of a Wolf share if the Proposed Transaction is not approved on a minority basis has been calculated by applying our minority interest discount to our value of a Wolf share if the Proposed Transaction is not approved, as shown below:

| | Low | Preferred | High |
|---|---|---|---|
| | $ | $ | $ |
| Value of a Wolf share if the Proposed Transaction is not approved on a control basis | 0.268 | 0.296 | 0.324 |
| Discount for minority interest | 26% | 23% | 20% |
| **Value of a Wolf share if the Transaction is not approved on a minority basis** | **0.198** | **0.228** | **0.259** |

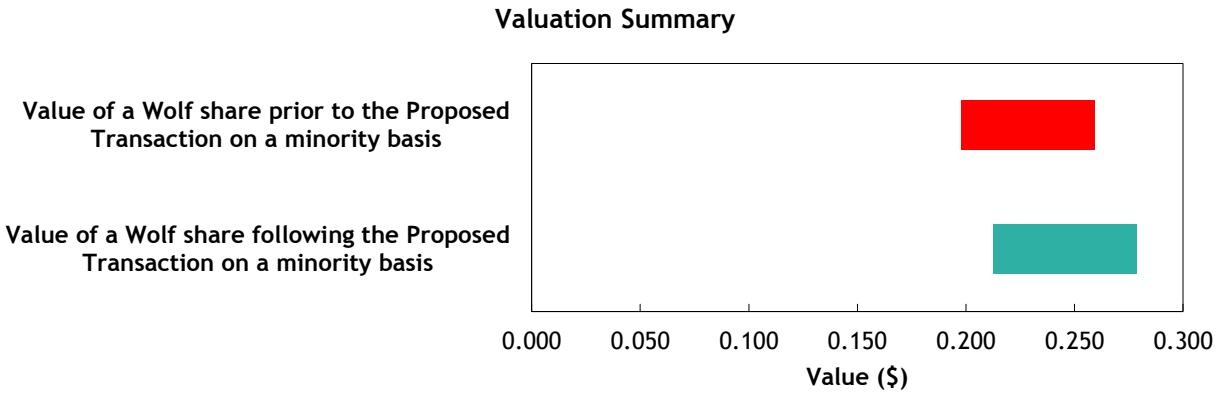
**Source**: BDO analysis

Therefore, the table below provides a comparison between the value of a Wolf share if the Proposed Transaction is not approved on a minority interest basis and the value of a Wolf share if the Proposed Transaction is approved on a minority interest basis.

| | Low | Preferred | High |
|---|---|---|---|
| | $ | $ | $ |
| Value of a Wolf share if the Proposed Transaction is not approved on a minority basis | 0.198 | 0.228 | 0.259 |
| Value of a Wolf share if the Proposed Transaction is approved on a minority basis | 0.213 | 0.245 | 0.278 |

**Source**: BDO analysis

The above valuation ranges are graphically present below:




**Source**: BDO analysis

**The above table and graph indicate that the low, preferred and high values of a Wolf share if the Transaction is not approved on a minority basis is lower than the low, preferred and high values of a Wolf share if the Transaction is approved on a minority interest basis. So were we are able under RG 111 to assess the fairness on this basis, our opinion would have been that the Proposed Transaction is fair.**

### 13.1.2 The Proposed Transaction will provide the required funding for Wolf to ramp up its Hemerdon Project and to facilitate the Company's debt repayments

The Proposed Transaction is expected to provide further equity finance for the Hemerdon Project and, when combined with the debt funding already secured by Wolf, should provide sufficient funds required to ramp up production at the Hemerdon Project and to facilitate the Company's debt repayments.

If the Proposed Transaction is not approved, Wolf would need to seek an alternative source of funds to meet its funding requirement. We also note that Wolf's annual report contained an emphasis of matter in the audit report regarding its ability to continue as a going concern.

If the Proposed Transaction is not approved, the Company would need to seek alternative sources of funding. If Wolf is required to re-commence the process of negotiating alternative sources of funding, this is likely to cause delays to the Hemerdon Project.

Wolf has advised that significant efforts have already been made to identify alternative sources of funding available to the Company and that the terms of the Proposed Transaction are the most attractive.

#### 13.1.3 Strengthens the Company's relationship with its cornerstone investor, RCF

RCF, through Resource Capital Fund V LP, is Wolf's largest shareholder, owning 41.70% of Wolf's issued capital prior to the Proposed Transaction.

RCF is a private equity firm that invests in a diverse range of commodities. The primary goal of private equity firms is to generate a return on its investment. Since private equity firms receive shares in the companies they invest in, their return is generated by an increase in the value of those companies.

RCF's participation in the Proposed Transaction along with the consideration paid of US$7 million for a 2% royalty, indicates RCF's strong financial support for Wolf and for the Hemerdon Project. If the Proposed Transaction is approved, RCF's interest in Wolf may increase to as much as 56.36% (see section 4.2), which accordingly, is likely to increase its major shareholder support in the future.

#### 13.1.4 Enables the condition in the Waiver and Variation Deed to be satisfied

The Waiver and Variation Deed is conditional upon the Company obtaining committed equity funding for an amount up to £25 million by 30 April 2016. The Proposed Transaction will provide the required funds of £25 million, enabling this condition in the Waiver and Variation Deed to be satisfied.

If the Proposed Transaction is not approved, the conditions in the Waiver and Variation Deed will not be satisfied and the Company would need to seek alternative sources of finance and obtain waivers of, and amendments to the Senior Facility Documents. This may result in delays to the Hemerdon Project and impact the Company's ability to meet its debt repayments.

#### 13.1.5 Strengthening of the Company's balance sheet

The Proposed Transaction is expected to provide up to an additional £25 million (or A$50.5 million) in cash to Wolf (before transaction costs), increasing the Company's net asset position by the same amount on a standalone basis. Raising the required funding through equity reduces gearing levels and strengthens the balance sheet of the Company overall. This is an advantage to Shareholders as it increases the financial strength of the Company and therefore reduces risk for Shareholders.

#### 13.1.6 Increase in market capitalisation

If the Proposed Transaction is approved, Wolf may increase its market capitalisation. As a larger company, there is a potential for greater broker coverage and presence in the tungsten market.

An increase in Wolf's market capitalisation, together with the increase financial strength noted in section 13.1.4 may also lead to an increase in the liquidity of Wolf shares traded on the ASX and AIM.

## 13.2 Disadvantages of approving the Proposed Transaction

If the Proposed Transaction is approved, in our opinion, the potential disadvantages to Shareholders include those listed below:

### 13.2.1 The Proposed Transaction is not fair

As set out in section 12, the Proposed Transaction is not fair for Shareholders.

### 13.2.2 Dilution of existing shareholders

Following the approval of the Proposed Transaction, existing Shareholders' interests may decrease from 58.30% to approximately 43.64%. Shareholders will suffer a substantial dilution of their shareholding and therefore their capacity to influence the operations of the Company will be reduced.

### 13.2.3 Increased presence of a significant controlling shareholder may reduce the attractiveness of the Company's shares to potential investors

If the Transaction is approved RCF may hold up to 56.36% of the Company's issued capital. With the presence of a significant controlling shareholder, the attractiveness of the Company's shares to potential investors may reduce and the ability for Shareholders to receive a takeover premium in the future is also reduced. Similarly, the liquidity of the Company's shares may also be reduced, meaning that it may be more difficult for Shareholders to realise their investment.

## 13.3 Other considerations

### 13.3.1 Alternative Proposals

Wolf has secured project debt finance which provides first ranking security to the lenders over the Company's assets, as well as requiring the lender's approval to take on further debt. Wolf also has granted second ranking security to RCF to secure its royalty interest. Given this, further debt solutions (including convertible instruments and other credit facilities) are not available to the Company, as the security required by potential lenders under such products is not available.

Furthermore, Wolf notes that significant efforts have been made to identify alternative sources of funding but the terms of the Proposed Transaction are the most attractive. If the Proposed Transaction is not approved, the options available to the Company to source alternative funds on attractive terms are limited.

### 13.3.2 Practical Level of Control

If the Proposed Transaction is approved, RCF may hold up to an interest of 56.36% in Wolf.

When shareholders are required to approve an issue that relates to a company there are two types of approval levels. These are general resolutions and special resolutions. A general resolution requires 50% of shares to be voted in favour to approve a matter and a special resolution required 75% of shares on issue to be voted in favour to approve a matter. If the Proposed Transaction is approved, then RCF will be able to pass general resolutions. There will be no change in RCF's existing ability to block special resolutions.

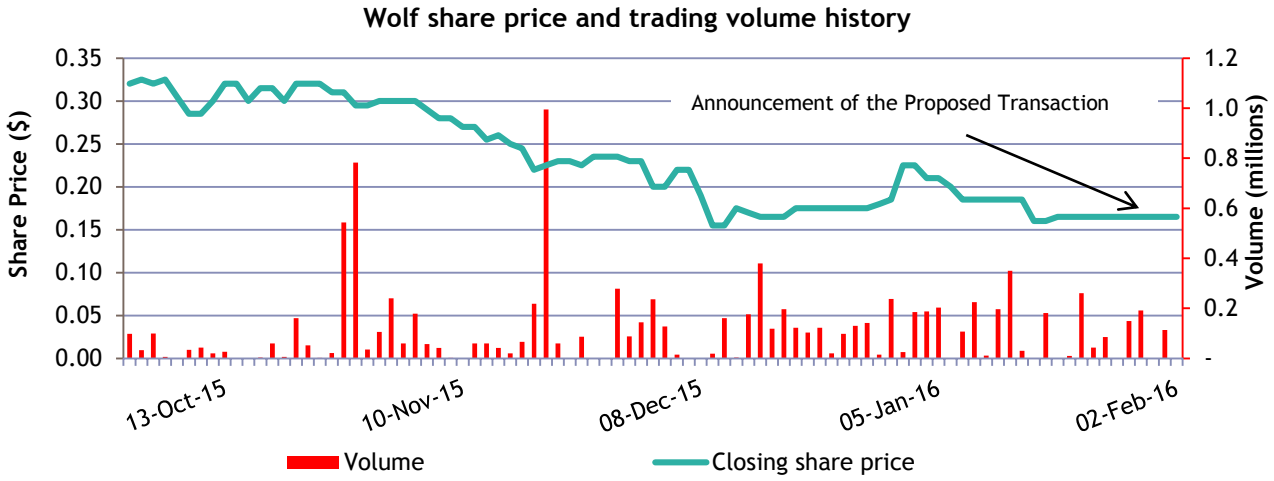
RCF's control of Wolf following the Proposed Transaction will be significant when compared to all other shareholders.

### 13.3.3 The Proposed Transaction is unlikely to deter a takeover offer being received in the future

As discussed in section 13.1.3, we consider RCF to be a financial investor rather than a strategic investor that is interested in obtaining off-take or access to synergies. RCF's primary goal is to generate a return on its investment, which we consider to be consistent with a Shareholder's primary goal. Therefore, although it is likely that any offer to acquire the Company would require RCF's acceptance, we do not consider that an increase in RCF's investment, as a result of approving the Proposed Transaction, will deter a takeover offer being made or accepted by the Company if an acceptable offer is made.

### 13.3.4 Consequences of not approving the Proposed Transaction

We have analysed movements in Wolf's share price since the Proposed Transaction was announced. A graph of Wolf's share price since the announcement is set out below.




**Source:** Bloomberg

Following the announcement of the Proposed Transaction, the share price of Wolf remained unchanged at $0.165. If the Proposed Transaction is not approved, the share price of Wolf may continue to decline.

### 13.3.5 No change to composition of the Wolf Board

Under the terms of the Proposed Transaction, RCF may appoint a nominee to the Board of Wolf in addition to RCF's current sole representative, Chris Corbett.

## 14. Conclusion

We have considered the terms of the Proposed Transaction as outlined in the body of this report and have concluded that the Proposed Transaction is not fair but reasonable to the Shareholders of Wolf.

## 15. Sources of information

This report has been based on the following information:

- Draft Notice of General Meeting on or about the date of this report;
- Audited financial statements of Wolf for the years ended 30 June 2014 and 30 June 2015;
- Reviewed financial statements of Wolf for the half-year ended 31 December 2015;
- Micon's Independent Technical Assessment and Valuation Report dated 12 February 2016;
- Binding Term Sheet between Wolf Minerals Limited and Resource Capital Fund VI LP for an Equity Standby Facility;
- Share registry information;
- Information in the public domain; and
- Discussions with Directors and Management of Wolf.

## 16. Independence

BDO Corporate Finance (WA) Pty Ltd is entitled to receive a fee of $55,000 (excluding GST and reimbursement of out of pocket expenses). The fee is not contingent on the conclusion, content or future use of this Report. Except for this fee, BDO Corporate Finance (WA) Pty Ltd has not received and will not receive any pecuniary or other benefit whether direct or indirect in connection with the preparation of this report.

BDO Corporate Finance (WA) Pty Ltd has been indemnified by Wolf in respect of any claim arising from BDO Corporate Finance (WA) Pty Ltd's reliance on information provided by the Wolf, including the non-provision of material information, in relation to the preparation of this report.

Prior to accepting this engagement BDO Corporate Finance (WA) Pty Ltd has considered its independence with respect to Wolf and RCF and any of their respective associates with reference to ASIC Regulatory Guide 112 'Independence of Experts'. In BDO Corporate Finance (WA) Pty Ltd's opinion it is independent of Wolf and RCF and their respective associates.

A draft of this report was provided to Wolf and its advisors for confirmation of the factual accuracy of its contents. No significant changes were made to this report as a result of this review.

BDO is the brand name for the BDO International network and for each of the BDO Member firms.

BDO (Australia) Ltd, an Australian company limited by guarantee, is a member of BDO International Limited, a UK company limited by guarantee, and forms part of the international BDO network of Independent Member Firms. BDO in Australia, is a national association of separate entities (each of which has appointed BDO (Australia) Limited ACN 050 110 275 to represent it in BDO International).

## 17. Qualifications

BDO Corporate Finance (WA) Pty Ltd has extensive experience in the provision of corporate finance advice, particularly in respect of takeovers, mergers and acquisitions.

BDO Corporate Finance (WA) Pty Ltd holds an Australian Financial Services Licence issued by the Australian Securities and Investment Commission for giving expert reports pursuant to the Listing rules of the ASX and the Corporations Act.

The persons specifically involved in preparing and reviewing this report were Sherif Andrawes and Adam Myers of BDO Corporate Finance (WA) Pty Ltd. They have significant experience in the preparation of independent expert reports, valuations and mergers and acquisitions advice across a wide range of industries in Australia and were supported by other BDO staff.

Sherif Andrawes is a Fellow of the Institute of Chartered Accountants in England & Wales and a Member of the Institute of Chartered Accountants in Australia. He has over twenty five years' experience working in the audit and corporate finance fields with BDO and its predecessor firms in London and Perth. He has been responsible for over 250 public company independent expert's reports under the Corporations Act or ASX Listing Rules and is a CA BV Specialist. These experts' reports cover a wide range of industries in Australia with a focus on companies in the natural resources sector. Sherif Andrawes is the Chairman of BDO in Western Australia, Corporate Finance Practice Group Leader of BDO in Western Australia and the Natural Resources Leader for BDO in Australia.

Adam Myers is a member of the Australian Institute of Chartered Accountants. Adam's career spans 18 years in the Audit and Assurance and Corporate Finance areas. Adam has considerable experience in the preparation of independent expert reports and valuations in general for companies in a wide number of industry sectors.

## 18. Disclaimers and consents

This report has been prepared at the request of Wolf for inclusion in the Notice of Meeting which will be sent to all Wolf Shareholders. Wolf engaged BDO Corporate Finance (WA) Pty Ltd to prepare an independent expert's report on the proposal for Resource Capital Fund VI LP to subscribe for Wolf shares to raise up to £25 million (or A$50.5 million).

BDO Corporate Finance (WA) Pty Ltd hereby consents to this report accompanying the above Notice of Meeting. Apart from such use, neither the whole nor any part of this report, nor any reference thereto may be included in or with, or attached to any document, circular resolution, statement or letter without the prior written consent of BDO Corporate Finance (WA) Pty Ltd.

BDO Corporate Finance (WA) Pty Ltd takes no responsibility for the contents of the Notice of Meeting other than this report.

We have no reason to believe that any of the information or explanations supplied to us are false or that material information has been withheld. It is not the role of BDO Corporate Finance (WA) Pty Ltd acting as an independent expert to perform any due diligence procedures on behalf of the Company. The Directors of the Company are responsible for conducting appropriate due diligence in relation to Wolf. BDO Corporate Finance (WA) Pty Ltd provides no warranty as to the adequacy, effectiveness or completeness of the due diligence process.

The opinion of BDO Corporate Finance (WA) Pty Ltd is based on the market, economic and other conditions prevailing at the date of this report. Such conditions can change significantly over short periods of time.

The forecasts provided to BDO Corporate Finance (WA) Pty Ltd by Wolf and its advisers are based upon assumptions about events and circumstances that have not yet occurred. Accordingly, BDO Corporate Finance (WA) Pty Ltd cannot provide any assurance that the forecasts will be representative of results that will actual be achieved. BDO Corporate Finance (WA) Pty Ltd disclaims any possible liability in respect of these forecasts. We note that the forecasts provided do not include estimates as to the effect of any future emissions trading scheme should it be introduced as it is unable to estimate the effects of such a scheme at this time.

With respect to taxation implications it is recommended that individual Shareholders obtain their own taxation advice, in respect of the Proposed Transaction, tailored to their own particular circumstances. Furthermore, the advice provided in this report does not constitute legal or taxation advice to the Shareholders of Wolf, or any other party.

BDO Corporate Finance (WA) Pty Ltd has also considered and relied upon independent valuations for mineral assets held by Micon.

The valuer engaged for the mineral asset valuation, Micon, possess the appropriate qualifications and experience in the industry to make such assessments. The approaches adopted and assumptions made in arriving at their valuation are appropriate for this report. We have received consent from the valuer for the use of their valuation report in the preparation of this report and to append a copy of their report to this report.

The statements and opinions included in this report are given in good faith and in the belief that they are not false, misleading or incomplete.

The terms of this engagement are such that BDO Corporate Finance (WA) Pty Ltd has no obligation to update this report for events occurring subsequent to the date of this report.

Yours faithfully

**BDO CORPORATE FINANCE (WA) PTY LTD**

**Sherif Andrawes**

Director

**Adam Myers**

Director

# Appendix 1 – Glossary of Terms

| Reference | Definition |
|---|---|
| A$ or AUD | Australian dollar |
| The Act | The Corporations Act 2001 Cth |
| AIM | The London Exchange's Alternative Investment Market |
| the Adjusted Model | The Hemerdon Tungsten and Tin Project Model, adjusted to reflect the changes to technical assumptions as a result of Micon International Limited's review, and any changes to the economic and other input assumptions from BDO's research and to reflect cash flows on a nominal basis |
| APES 225 | Accounting Professional & Ethical Standards Board professional standard APES 225 'Valuation Services' |
| APT | Ammonium Paratungstate |
| ASIC | Australian Securities and Investments Commission |
| ASX | Australian Securities Exchange |
| AUD or A$ | Australian Dollars |
| BDO | BDO Corporate Finance (WA) Pty Ltd |
| CAPM | Capital asset pricing model |
| The Company | Wolf Minerals Limited |
| Corporations Act | The Corporations Act 2001 Cth |
| CY | Calendar year |
| DCF | Discounted cash flows |
| Drakelands | Drakelands Mine at the Hemerdon Tungsten and Tin project |
| EBIT | Earnings before interest and tax |
| EBITDA | Earnings before interest, tax, depreciation and amortisation |
| EPC contract | Engineering, procurement and construction contract |
| Extended Model | A cash flow model for the Hemerdon Project which is extended by five years beyond |

| Reference | Definition |
|---|---|
| | the current pit design to incorporate the mining production of additional resources that are not included in ore reserves |
| FME | Future maintainable earnings |
| FOS | Financial Ombudsman Service |
| FSG | Financial Services Guide |
| GBP or £ | Great British Pounds |
| GR Engineering | GR Engineering Services Limited |
| GTP | Global Tungsten & Powders Corporation |
| the Hemerdon Project | The Hemerdon Tungsten and Tin Project |
| JORC Code | The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves |
| LIBOR | London Interbank Offered Rate |
| Model | A cash flow model for the Hemerdon Project (ore reserves only) prepared by Wolf |
| Metals Royalty | Royalty to be paid to the landowners |
| Micon | Micon International Co Limited |
| mtpa | Million tonnes per annum |
| mtu | Metric tonne unit |
| NAV | Net asset value |
| Notice of Meeting | Explanatory Memorandum and Notice of Meeting document |
| Post-Transaction | After the Proposed Transaction |
| Pre-Transaction | Prior to the Proposed Transaction |
| the Project | The Hemerdon Tungsten and Tin Project |
| QMP | Quoted market price |
| RBA | Reserve Bank of Australia |
| RCF | Resource Capital Fund V LP and Resource Capital Fund VI LP |

| Reference | Definition |
|---|---|
| RCF Royalty | Royalty to be paid to Resource Capital Fund V LP in accordance with the consideration paid to Wolf Minerals (UK) Limited |
| Our Report | This Independent Expert's Report prepared by BDO |
| the Proposed Transaction | Wolf Minerals Limited's proposal to raise up to £25 million (A$50.5 million) from Resource Capital Fund VI LP, an associate of Wolf's largest shareholder, Resource Capital Fund V LP |
| RG 74 | Acquisitions approved by Members (December 2011) |
| RG 111 | Content of expert reports (March 2011) |
| RG 112 | Independence of experts (March 2011) |
| Section 606 | Section 606 of the Corporations Act |
| Section 611 | Section 611 of the Corporations Act |
| Senior Facility Documents | The Senior Facility Agreement and the Security Trust and Intercreditor Deed |
| Shareholders | Shareholders of Wolf Minerals Limited not associated with RCF |
| Sum-of-Parts | The combination of different methodologies to be used together to determine an overall value where separate assets and liabilities are valued using different methodologies |
| Technical Assessment and Valuation Report | Technical Assessment and Valuation Report prepared by Micon International Limited as at 12 February 2016 |
| U.S. | United States of America |
| USD or US$ | United States Dollars |
| Valmin Code | The Code of Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports 2005 |
| Valuation Engagement | An Engagement or Assignment to perform a Valuation and provide a Valuation Report where the Valuer is free to employ the Valuation Approaches, Valuation Methods, and Valuation Procedures that a reasonable and informed third party would perform taking into consideration all the specific facts and circumstances of the Engagement or Assignment available to the Valuer at that time |
| VAT | Value-added Tax |
| VWAP | Volume Weighted Average Price |

| Reference | Definition |
| --- | --- |
| Waiver and Variation Deed | the senior lenders under the Senior Facility Documents agreeing to provide waivers of, and amendment to, the Senior Facility Documents to grant relief up to 31 March 2017 from financial and other covenants |
| WBH | Wolfram Bergbau und Hutten AG |
| Wolf | Wolf Minerals Limited |

# Appendix 2 – Valuation Methodologies

Methodologies commonly used for valuing assets and businesses are as follows:

### 1 *Net asset value ('NAV')*

Asset based methods estimate the market value of an entity's securities based on the realisable value of its identifiable net assets. Asset based methods include:

- Orderly realisation of assets method
- Liquidation of assets method
- Net assets on a going concern method

The orderly realisation of assets method estimates fair market value by determining the amount that would be distributed to entity holders, after payment of all liabilities including realisation costs and taxation charges that arise, assuming the entity is wound up in an orderly manner.

The liquidation method is similar to the orderly realisation of assets method except the liquidation method assumes the assets are sold in a shorter time frame. Since wind up or liquidation of the entity may not be contemplated, these methods in their strictest form may not be appropriate. The net assets on a going concern method estimates the market values of the net assets of an entity but does not take into account any realisation costs.

Net assets on a going concern basis are usually appropriate where the majority of assets consist of cash, passive investments or projects with a limited life. All assets and liabilities of the entity are valued at market value under this alternative and this combined market value forms the basis for the entity's valuation.

Often the FME and DCF methodologies are used in valuing assets forming part of the overall Net assets on a going concern basis. This is particularly so for exploration and mining companies where investments are in finite life producing assets or prospective exploration areas.

These asset based methods ignore the possibility that the entity's value could exceed the realisable value of its assets as they do not recognise the value of intangible assets such as management, intellectual property and goodwill. Asset based methods are appropriate when an entity is not making an adequate return on its assets, a significant proportion of the entity's assets are liquid or for asset holding companies.

### 2 *Quoted Market Price Basis ('QMP')*

A valuation approach that can be used in conjunction with (or as a replacement for) other valuation methods is the quoted market price of listed securities. Where there is a ready market for securities such as the ASX, through which shares are traded, recent prices at which shares are bought and sold can be taken as the market value per share. Such market value includes all factors and influences that impact upon the ASX. The use of ASX pricing is more relevant where a security displays regular high volume trading, creating a 'deep' market in that security.

### 3 *Capitalisation of future maintainable earnings ('FME')*

This method places a value on the business by estimating the likely FME, capitalised at an appropriate rate which reflects business outlook, business risk, investor expectations, future growth prospects and other entity specific factors. This approach relies on the availability and analysis of comparable market data.

The FME approach is the most commonly applied valuation technique and is particularly applicable to profitable businesses with relatively steady growth histories and forecasts, regular capital expenditure requirements and non-finite lives.

The FME used in the valuation can be based on net profit after tax or alternatives to this such as earnings before interest and tax (‘**EBIT**’) or earnings before interest, tax, depreciation and amortisation (‘**EBITDA**’). The capitalisation rate or ‘earnings multiple’ is adjusted to reflect which base is being used for FME.

### 4 *Discounted future cash flows (‘DCF’)*

The DCF methodology is based on the generally accepted theory that the value of an asset or business depends on its future net cash flows, discounted to their present value at an appropriate discount rate (often called the weighted average cost of capital). This discount rate represents an opportunity cost of capital reflecting the expected rate of return which investors can obtain from investments having equivalent risks.

Considerable judgement is required to estimate the future cash flows which must be able to be reliably estimated for a sufficiently long period to make this valuation methodology appropriate.

A terminal value for the asset or business is calculated at the end of the future cash flow period and this is also discounted to its present value using the appropriate discount rate.

DCF valuations are particularly applicable to businesses with limited lives, experiencing growth, that are in a start up phase, or experience irregular cash flows.

### 5 *Market Based Assessment*

The market based approach seeks to arrive at a value for a business by reference to comparable transactions involving the sale of similar businesses. This is based on the premise that companies with similar characteristics, such as operating in similar industries, command similar values. In performing this analysis it is important to acknowledge the differences between the comparable companies being analysed and the company that is being valued and then to reflect these differences in the valuation.

# Appendix 3 – Discount Rate Assessment

Determining the correct discount rate, or cost of capital, for a business requires the identification and consideration of a number of factors that affect the returns and risks of a business, as well as the application of widely accepted methodologies for determining the returns of a business.

The discount rate applied to the forecast cash flows from a business represents the financial return that will be required before an investor would be prepared to acquire (or invest in) the business.

Since the Adjusted Model includes all cash inflows and outflows relating to debt, the cash flows derived from the Adjusted Model are equity cash flows. Therefore the appropriate discount rate to use is a cost of equity.

The capital asset pricing model (**'CAPM'**) is commonly used in determining the market rates of return for equity type investments and project evaluations. The CAPM provides the required return on an equity investment.

### Cost of Equity and Capital Asset Pricing Model

CAPM is based on the theory that a rational investor would price an investment so that the expected return is equal to the risk free rate of return plus an appropriate premium for risk. CAPM assumes that there is a positive relationship between risk and return, that is, investors are risk averse and demand a higher return for accepting a higher level of risk.

CAPM calculates the cost of equity and is calculated as follows:

| CAPM | |
|---|---|
| $K_e$ | $= R_f + \beta \times (R_m - R_f)$ |
| Where: | |
| $K_e$ | = expected equity investment return or cost of equity in nominal terms |
| $R_f$ | = risk free rate of return |
| $R_m$ | = expected market return |
| $R_m - R_f$ | = market risk premium |
| $\beta$ | = equity beta |

The individual components of CAPM are discussed below.

### Risk Free Rate (Rf)

The risk free rate is normally approximated by reference to a long term government bond with a maturity equivalent to the timeframe over which the returns from the assets are expected to be received. We have used the current yield to maturity on the 10-year Commonwealth Government Bond, which was 2.69% per annum as at 28 January 2016.

### Market Risk Premium (Rm - Rf)

The market risk premium represents the additional return that investors expect from an investment in a well-diversified portfolio of assets. It is common to use a historical risk premium, as expectations are not observable in practice.

The market risk premium is derived on the basis of capital weighted average return of all members of the S&P 200 Index minus the risk free rate, which is dependent on the ten year government bond rates. For the purpose of our report we have adopted a market risk premium of 6%.

### Equity Beta

Beta is a measure of the expected correlation of an investment's return over and above the risk free rate, relative to the return over and above the risk free rate of the market as a whole; a beta greater than one implies that an investment's return will outperform the market's average return in a bullish market and underperform the market's average return in a bearish market. On the other hand, a beta less than one implies that the business' will underperform the market's average return in a bullish market and outperform the market's average return in a bearish market.

Equity betas are normally either an historical beta or an adjusted beta. The historical beta is obtained from the linear regression of a stock's historical data and is based on the observed relationship between the security's return and the returns on an index. An adjusted beta is calculated based on the assumption that the relative risk of the past will continue into the future, and is hence derived from historical data. It is then modified by the assumption that a stock will move towards the market over time, taking into consideration the industry risk factors, which make the operating risk of the company greater or less risky than comparable listed companies.

It is important to note that it is not possible to compare the equity betas of different companies without having regard to their gearing levels. Thus, a more valid analysis of betas can be achieved by 'ungearing' the equity beta ($\beta_a$) by applying the following formula:

$\beta_a = \beta / (1+(D/E \times (1-t))$

In order to assess the appropriate equity beta for the Project, we have had regard to the equity beta of Wolf and of ASX listed companies involved in similar activities in similar industry sectors. The geared betas below have been calculated against the All Ordinaries Index, using monthly data over a two-year period.

| Company | Market Capitalisation 28-Jan-16 ($m) | Geared Beta (β) | Gross Debt/Equity (%) | Ungeared Beta (βa) |
|---|---|---|---|---|
| Wolf Minerals Limited | 133.60 | 0.84 | 40% | 0.66 |

**Source:** Bloomberg and BDO analysis

| Company | Market Capitalisation 28-Jan-16 ($m) | Geared Beta (β) | Gross Debt/Equity (%) | Ungeared Beta (βa) |
|---|---|---|---|---|
| Carbine Tungsten Limited | 8.49 | 0.71 | 12% | 0.65 |
| Hazelwood Resources Limited | 5.09 | 0.79 | 23% | 0.68 |
| King Island Scheelite Limited | 13.22 | 1.57 | 0% | 1.57 |
| Toptung Limited | 2.18 | 1.25 | 0% | 1.25 |
| Venture Minerals Limited | 6.32 | 1.29 | 0% | 1.28 |
| Vital Metals Limited | 4.44 | 1.97 | 69% | 1.33 |
| | **Mean** | **1.26** | **17%** | **1.13** |
| | **Median** | **1.27** | **6%** | **1.27** |

**Source:** Bloomberg and BDO analysis

Descriptions of comparable listed companies are summarised as follows.

| Company Name | Exchange | Ticker | Company description |
|---|---|---|---|
| Carbine Tungsten Limited | ASX | CNQ | Carbine Tungsten Ltd. explores for and produces tungsten. The Company operates the Mt. Carbine project in far North Queensland, Australia. |
| Hazelwood Resources Limited | ASX | HAZ | Hazelwood Resources Limited is engaged in ferrotungsten production, specialty metals development, nickel and base metals exploration. The company has majority ownership in the ATC Ferrotungsten Project in Vietnam in addition to owning the Big Hill and My Mulgine tungsten projects located in Western Australia. |
| King Island Scheelite Limited | ASX | KIS | King Island Scheelite Limited focuses on the exploration, development, and production of tungsten deposits in Australia. The company holds a 100% interest in the Dolphin project on King Island and a 70% joint venture interest with Pleiades Resources Pty Ltd to explore for tin, tungsten, copper, and gold within Balfour tenements in the North West Tasmania. |
| Toptung Limited | ASX | TTW | Toptung Limited operates as a minerals discovery company. The Company focuses on the exploration of tungsten, gold, copper, lead, zinc, silver, and uranium. Toptung Limited conducts its business in Australia. |
| Venture Minerals Limited | ASX | VMS | Venture Minerals Ltd. explores for metals. The company operates the Mt. Lindsay tin, tungsten and iron project in Tasmania, and the Maitland Channel uranium project and the Paulsens South project in Western Australia. |
| Vital Metals Limited | ASX | VML | Vital Metals Limited explores and develops mineral properties in Australia and Burkina Faso, West Africa. It primarily explores for tungsten, gold, and zinc. The company principally holds an interest in the Watershed Tungsten project located in Queensland, Australia; and a 100% interest in the Doulnia Gold project situated in southern Burkina Faso, West Africa. |

**Source:** Bloomberg and respective Company websites

### Selected Beta (ß)

In selecting an appropriate beta for the Project, we have considered the similarities between the comparable companies selected above. The comparable similarities and differences noted are:

- the comparable companies' mining and exploration assets have varying risk profiles depending on the maturity of the assets and the stages and location of production; and
- there are varying stages of development of the comparable companies' projects compared to the Hemerdon Project.

Having regard to the above, we consider that an appropriate ungeared beta to apply to the Hemerdon Project is between 1.00 and 1.20.

The proposed capital structure for the Hemerdon Project is assumed to be 32.73% debt and 67.27% equity, in accordance with the Adjusted Model.

We consider it reasonable to assume that the shareholders of Wolf determine their required rate of return, for a particular project, by viewing the risks associated with the future cash flows of the project. We have re-geared the project beta to 1.42 to 1.71.

## Cost of Equity

We have assessed the cost of equity to be in the range of 11% to 13% with a preferred value of 12%.

| Input | Value Adopted | |
|---|---|---|
| | Low | High |
| Risk free rate of return | 2.69% | 2.69% |
| Equity market risk premium | 6.00% | 6.00% |
| Beta (geared) | 1.42 | 1.71 |
| **Cost of Equity** | **11.22%** | **12.92%** |

**Source:** Bloomberg, RBA and BDO analysis

# Appendix 4 – Independent Technical Assessment and Valuation Report

# BDO CORPORATE FINANCE (WA) PTY LTD

# HEMERDON TUNGSTEN-TIN DEPOSIT

# DEVON

# UNITED KINGDOM

# INDEPENDENT TECHNICAL ASSESSMENT AND VALUATION REPORT

**Prepared By**

**Micon International Co Limited**
**Suite 10 Keswick Hall, Norwich, NR4 6TJ, United Kingdom**

**12th February 2016**

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# 1.0 INTRODUCTION

Micon International Co Limited (Micon) has undertaken an independent Technical Assessment and Valuation Report (Report) of the Hemerdon tungsten project on behalf of BDO Corporate Finance (WA) Pty Ltd (BDO). The Hemerdon Project is owned and operated by Wolf Minerals Limited (Wolf Minerals). The Report was prepared in compliance with the "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports" (The Valmin Code 2005).

Wolf Minerals is headquartered in Subiaco, Western Australia. The company was formed in September, 2006 and has been listed on the Australian Stock Exchange (ASX) since February, 2007. Wolf Minerals' primary focus has been to acquire and develop the Hemerdon tungsten project, which has been renamed the Drakelands mine.

BDO has been engaged by Wolf Minerals to prepare an Independent Expert's Report for inclusion with a Notice of Meeting, to support the proposed issue of Wolf Minerals' shares. The Notice of Meeting and report will address the proposed issue of Wolf Minerals shares to raise equity funding.

BDO will prepare a valuation of Wolf Minerals' Hemerdon Project on a discounted cash flow basis. Micon is required to review the technical project assumptions in the cash flow model for the Hemerdon Project prepared by Wolf Minerals (the Model) together with a technical assessment report on the mining and geological inputs in the model. A copy of the Report will be appended to BDO's report.

Micon has reviewed mining operations and prepared Technical Independent Expert Reports for a number of companies operating throughout the world. Micon has extensive knowledge of the reporting requirements in all the major mining finance centres including London, Toronto, New York, Sydney and Stockholm.

Micon has been acting as Independent Engineer for the Senior Lenders involved in the Hemerdon Project since September 2011.

As Independent Engineer on behalf of Senior Lenders for the Hemerdon Project, Micon has made frequent visits to the project site over the last four years to review the project progress. The latest site visit to the project made by Micon personnel was by James Turner on 4th November 2015.

# 2.0 SCOPE OF THE TECHNICAL REPORT AND TERMS OF REFERENCE

## 2.1 PURPOSE AND SCOPE OF THE REPORT

This Report has been prepared on behalf of BDO Corporate Finance (WA) Pty Ltd (BDO) and reviews the technical project assumptions in the Model together with a technical assessment report on the mining and geological inputs in the Model. The Report has been prepared in accordance with the formatting requirements of the "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (The Valmin Code 2005) and is intended to be read in its entirety.

The mineral resource estimate was prepared by SRK Consulting and the ore reserve estimate was undertaken by CUBE Consulting Pty Ltd. Micon has reviewed these estimates and confirms that they have been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('the JORC Code') 2012.

The Model takes into account the pit design (ore reserve estimate) to produce a 9 year mine life (see Section 6.2). A subsequent pit optimisation exercise was performed by Wolf Minerals to assess the "potentially minable" resource (not ore reserve) beyond the Base Case pit design to produce an ultimate pit shell which may extend the mine life to 18 years.

In addition to the review of the technical project assumptions contained in the Model Micon has provided an independent opinion of market valuation of the Measured, Indicated and Inferred Mineral Resources outside of the 18-year optimised pit.

## 2.2 CAPABILITY AND INDEPENDENCE

Micon is an independent firm of geologists, mining engineers, metallurgists and environmental consultants, all of whom have extensive experience in the mining industry. The firm operates from integrated offices in Norwich and Cornwall, United Kingdom and Toronto and Vancouver, Canada. Micon offers a broad range of consulting services to clients involved in the mineral industry. The firm maintains a substantial practice in the geological assessment of prospective properties, the independent estimation of resources and reserves, the compilation and review of feasibility studies, the economic evaluation of mineral properties, due diligence reviews, and the monitoring of mineral projects on behalf of financing agencies.

Micon's practice is worldwide and covers all of the precious and base metals, the energy minerals (coal and uranium) and a wide variety of industrial minerals. The firm's clients include major mining companies, most of the major United Kingdom and Canadian banks and investment houses, and a large number of financial institutions in other parts of the world. Micon's technical, due diligence and valuation reports are typically accepted by regulatory agencies such as the London Stock Exchange, the US Securities and Exchange Commission, the Ontario Securities Commission, the Toronto Stock Exchange, and the Australian Stock Exchange.

Micon is internally owned and is entirely independent of BDO Corporate Finance (WA) Pty Ltd and Wolf Minerals Limited and their affiliated companies. The personnel responsible for this review and opinions expressed in this Report are Micon's full-time employees or Micon

associates. For its services in preparing this Report, Micon is receiving payment based upon time and expenses and will not receive any capital stock from either BDO Corporate Finance (WA) Pty Ltd or Wolf Minerals Limited or any of their affiliated companies. Micon reimburses its associates based upon agreed rates, time and expenses.

Payment to Micon for work completed is not dependent on the outcome of the Technical Assessment/Valuation or on the success or failure of any transaction for which the Independent Expert Report was required.

## 2.3 QUALIFICATIONS OF THE CONSULTANT

This Technical Report has been prepared by Micon International Co Limited (Micon) from its UK office. The following authors have contributed to the Technical Report:

- Stanley Bartlett, M.Sc., PGeo., who is a Competent Person as defined by the JORC Code by reason of education, experience and professional registration, has overall responsibility for the Report and specifically Sections 1.0, 2.0, 3.0, 4.0 and 5.0;
- Bruce Pilcher, B.E., CEng., *EurIng.*, FIMMM., FAusIMM CP(Min), who is responsible for Sections 6.0 and 9.0, covering Mine Planning and Mineral Reserve Estimation and Financial considerations respectively;
- James Turner, B.Sc., (Hons)., M.Sc., CEng., MIMMM., who is responsible for Section 7.0 and 10.0, covering Mineral Processing and Metallurgical Testing, and Recovery Methods and Conclusions respectively;
- Chris Gilchrist, CEng., PhD., FIMMM., Micon Associate, who is responsible for portions of Section 7.0;
- Jim Tapp, IEng., MCMI., MIPlantE., AMIQ., MSOE., Senior Micon Associate who is responsible for Sections 6.3.1 and 7.1; and,
- Mark Dodds-Smith, PhD., who is responsible for Section 8.0 covering Environmental Studies, Permitting and Social and Community Issues.

## 2.4 TECHNICAL REPORT USE

This Report is intended to be used by BDO subject to the terms and conditions of its agreement with Micon.

The conclusions and recommendations in this Report reflect the authors' best judgment in light of the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this Report and conclusions if additional information becomes known to them subsequent to the date of this Report. Use of this Report acknowledges acceptance of the foregoing conditions.

## 2.5 LIMITATIONS AND EXCLUSIONS

Whilst Micon has reviewed the exploration and mining licences, permits and entitlements of the property in so far as these may influence the investigation and development of the mining assets, Micon has not undertaken legal due diligence of the asset portfolio described in this Report. The reader is therefore cautioned that the inclusion of exploration and mining properties within this Report does not in any form imply legal ownership.

During the preparation of this Report, Micon has relied upon information provided by Wolf Minerals, which describes the legal title, infrastructure, exploration history, geology and mineralisation, resources, reserves, mining and metallurgical design, and capital and operating budgets proposed for the project.

The commodity pricing has not been reviewed by Micon, as this is beyond the scope of this Report.

## 2.6 SOURCES OF INFORMATION

Micon has reviewed all the information made available by Wolf Minerals during Micon's continuing role as Independent Engineer for the Senior Lenders and, in particular, the latest version of the Model provided as a spreadsheet.

A full list of references used in preparing this Report is listed in Section 12.0.

## 2.7 UNITS, CURRENCY AND ABBREVIATIONS

All financial values are reported in British Pounds Sterling GBP (£) while units are reported in the Système Internationale d'Unités (SI), as utilised by the British and international mining industries, including: metric tons (tonnes, t), million metric tonnes (Mt), kilograms (kg) and grams (g) for weight; kilometres (km), metres (m), centimetres (cm) or millimetres (mm) for distance; cubic metres ($m^3$), litres (l), millilitres (ml) or cubic centimetres ($cm^3$) for volume, square kilometres ($km^2$) or hectares (ha) for area, weight percent (%) for base metal grades, grams per metric tonne (g/t) for gold grades (g/t Au) and tonnes per cubic metre ($t/m^3$) for density.

Quantities of tungsten in ores and concentrates and prices for concentrates and the principal intermediate product, ammonium paratungstate (APT), are generally given in terms of metric tonne units (mtu) of the contained equivalent trioxide ($WO_3$). One mtu of $WO_3$ is equivalent to 10 kg $WO_3$ or 7.93 kg tungsten (W).

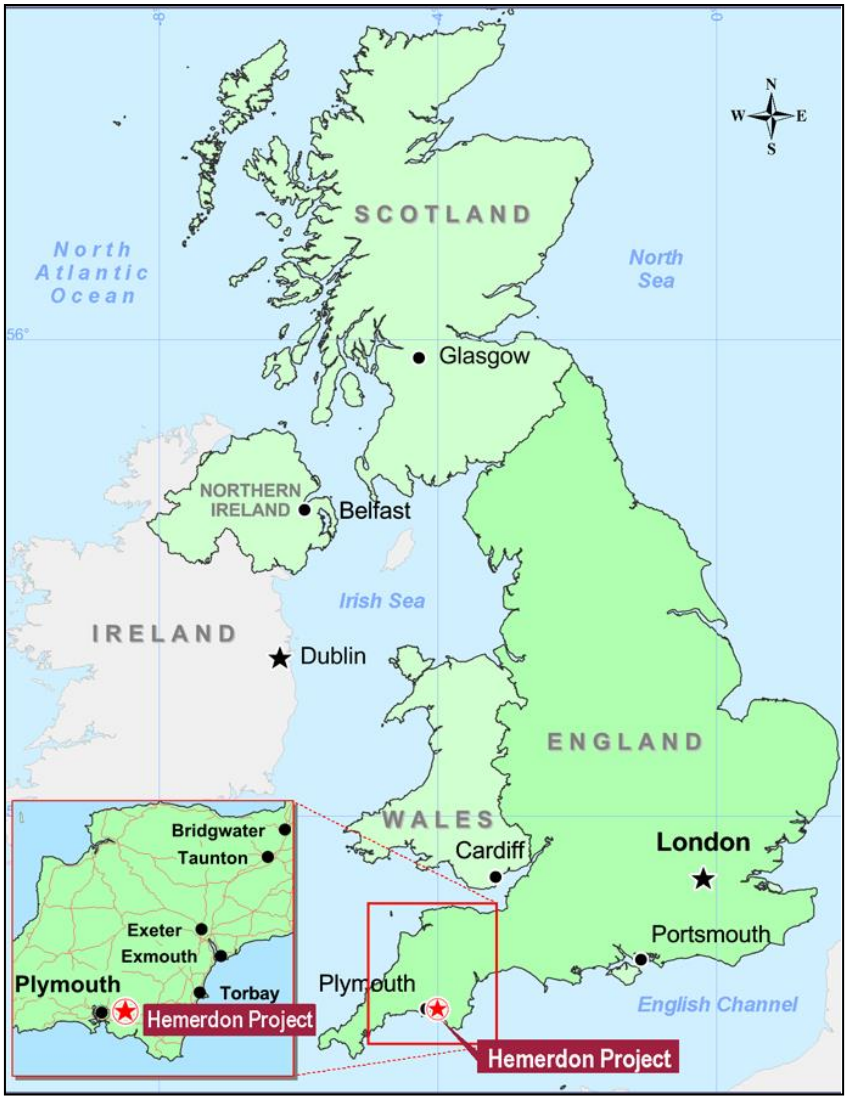
A glossary of terms and abbreviations can be found in Section 14.0.

# 3.0 LOCATION, DESCRIPTION AND HISTORY OF THE PROJECT

## 3.1 LOCATION

The Hemerdon project is located in Devon, southwest England, approximately 7 miles (11 km) northeast of Plymouth and some 60 km southeast of the county town of Exeter (Figure 3.1).

**Figure 3.1: General Location Map**




Source: Micon Hemerdon Due Diligence Report 2012

Plymouth has a population of approximately 260,000 and is a regional tourist centre. Imerys produces kaolin (china clay) at Hemerdon Lee Moor, 3 km north of the Hemerdon project. Although rural, extensive infrastructure exists in the area and off-site infrastructure construction has been limited to improvement of existing access roads, provision of high voltage power supply, and installation of a raw-water pumping station and buried water supply pipeline.

Figure 3.2 shows an aerial view of the Hemerdon Project site, the blue outline shows the planned mine area.

**Figure 3.2: Aerial View of the Hemerdon Project Site**


Source: Wolf Minerals 2014

## 3.2 OWNERSHIP AND PERMITS

In the UK, land title includes the rights to most of the minerals within. This is defined by British Geological Survey's Centre for Sustainable Mineral Development (Minerals UK) as follows; "With the exception of oil, gas, coal, gold and silver, the state does not own mineral rights in the UK. Generally minerals are held in private ownership, and information on mineral rights, where available, is held by the Land Registry together with details of land surface ownership".

Micon has reviewed property title documents for the Hemerdon project and has confirmed that the area covered by the mineral resources discussed in this Report are covered by mineral and surface rights that are either owned outright, or are under lease to Wolf Minerals. The principle titles related to the mineral rights are summarised in Table 3.1.

### 3.2.1 Lease

The lease for the Hemerdon property is titled "Lease of Mineral and Rights at Hemerdon Mine and Crownhill Down, Plympton Plymouth" and was signed by Wolf Minerals (UK) Limited as "the Tenant", with Wolf Minerals Limited as "the Guarantor", on 10th February 2014. The Landlords of the lease comprise the following:

- "the Mineral Trustees";
- "the Olver Estate Trustees";
- "the Hemerdon Trustees";
- "the Newnham Trustees";
- "Holly Down"; and,
- "Hemerdon".

The lease is valid for 40 years and the Landlord's title numbers are DN582555, DN583327, DN584688, DN88450 and DN630911.

The agreement with the landowners includes a royalty of 2% of the net smelter return (NSR).

Additional mineral rights are held by Wolf Minerals (UK) Limited through outright land ownership. Wolf Minerals owned area underlain by mineral resources is covered by DN136917 and DN537487. A charge against DN136917 is registered in the name of Unicredit Bank AG against an obligation to provide funding. A restrictive covenant against DN537487 requires revegetation of portions of the land prior to sale of the property.

The Lease of Mineral Rights described above is recorded as DN643856. This lease bears a charge held by Unicredit Bank AG against an obligation to provide funding.

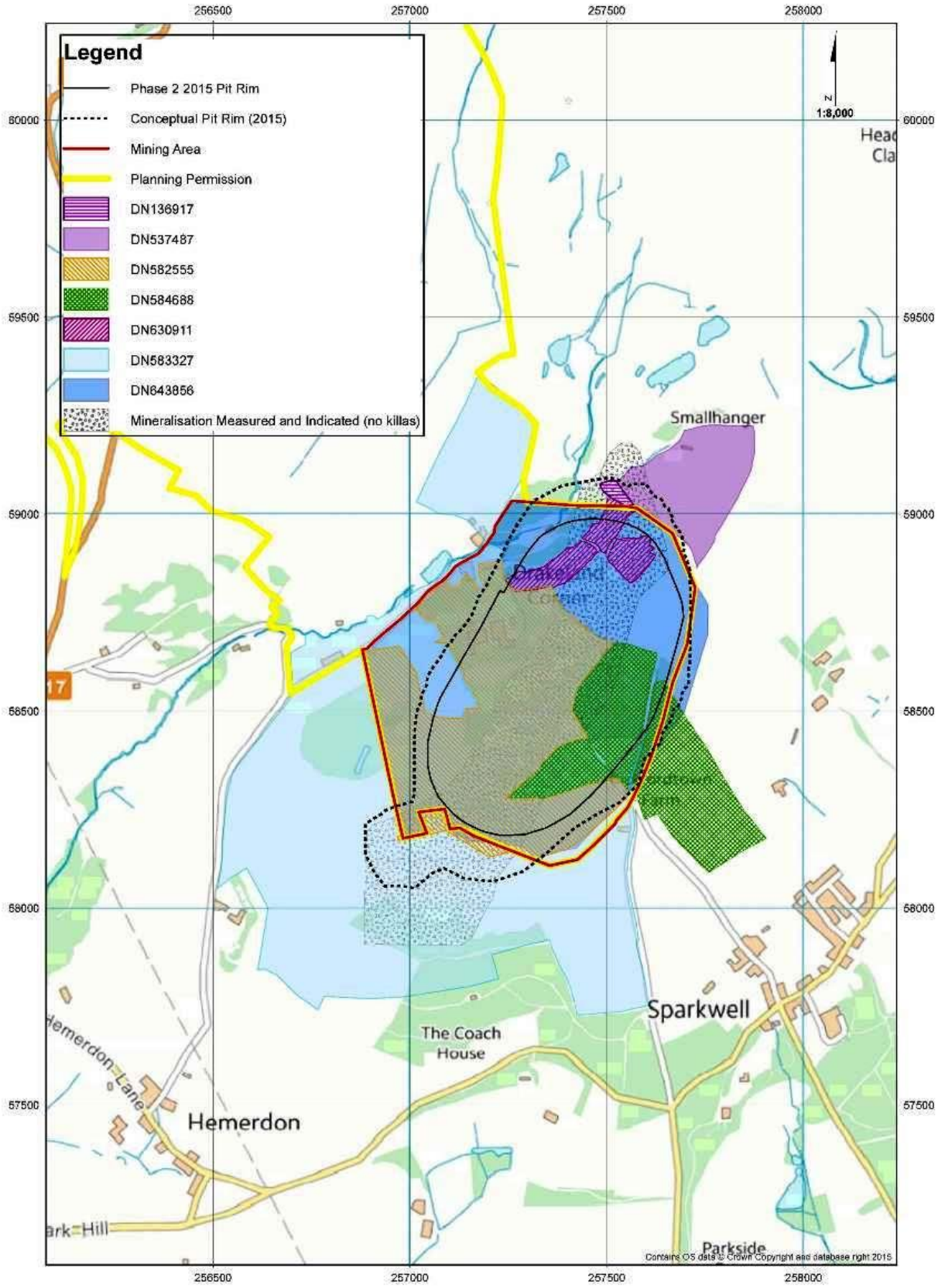
A plan showing the relationship between land and mineral lease titles, Hemerdon mineral resources and planned and extended open pits is presented in Figure 3.3. It should be noted that DN88450 and DN584688 cover the same property; DN88450 pertains specifically to the land and DN584688 to the lease of minerals.

**Table 3.1: Hemerdon Mineral Title**

| Title | Proprietor/Leaseholder | Date | Charge Beneficiary | Area (acres) | Charge | Charge Date | Charge Title |
|---|---|---|---|---|---|---|---|
| DN136917 | Wolf Minerals (UK) Limited | 24.03.2014 | Unicredit Bank AG | 0.7 | Debenture | 24.03.2014 | DN643856 |
| DN537487 | Wolf Minerals (UK) Limited | 17.10.2013 | Wolf Minerals (UK) Limited | 17.0 | Restrictive Covenants | 17.10.2013 | DN636341 |
| DN582555 | Hemerdon Land LLP | 21.01.2011 | Wolf Minerals (UK) Limited | 71.8 | Lease of Minerals | 10.02.2014 | DN643856 |
| DN584688 | Hemerdon Trustees | 04.02.2009 | Wolf Minerals (UK) Limited | 35.8 | Lease of Minerals | 10.02.2014 | DN643856 |
| DN630911 | Olver Trust | 23.01.2013 | Wolf Minerals (UK) Limited | 7.4 | Lease of Minerals | 24.03.2014 | DN643856 |
| DN583327 | Newnham Trustees | 05.11.2012 | Wolf Minerals (UK) Limited | 239.2 | Lease of Minerals | 10.02.2014 | DN643856 |
| DN643856 | Wolf Minerals (UK) Limited | 24.03.2014 | Unicredit Bank AG | 138.5 | Debenture | 24.03.2014 | DN643856 |
| DN88450 | Hemerdon Land LLP | 03.12.2010 | Wolf Minerals (UK) Limited | 35.8 | Lease of Minerals | 10.02.2014 | DN643856 |

Note: Areas are approximate. The area of DN88450 was derived from Land Registry plans.

**Figure 3.3: Hemerdon Mineral Title**



### 3.2.2 Planning Permission

The primary control over the development of mineral workings in England is exercised by the Mineral Planning Authority (in this instance Devon County Council) through granting of Planning Permission. Planning Permission (No. 9/42/49/0542/85/3) was granted in 1986 to the previous owner of the project, but the project did not progress to construction due to the metal prices prevailing at that time.

In consultation with the planning authorities, Wolf Minerals accepted a voluntary updating of the conditions associated with the original Planning Permission to reflect changes in environmental standards and good practice, which was formalised through the issuing by the Mineral Planning Authority of a Modification Order in January 2011.

The 1986 Planning Permission remains valid (provided that the project is developed in the same way as that proposed in 1986). Wolf Minerals has, however, incorporated some design elements that differ from those approved within the original Planning Permission, including revised dimensions for the process plant, incorporation of a reduction kiln and enlarged surface water management ponds. Accordingly, an application to the planning authority to revise these elements of the original project design was made in January 2014 and was determined in April 2014.

Additional permits related to environmental considerations are detailed in Section 8.0.

## 3.3 HISTORY

The Hemerdon tungsten deposit was discovered in 1867. It was mined as a source of tungsten for short periods in the First and Second World Wars. The property was acquired in 1976 by Hemerdon Mining and Smelting Limited, which brought in AMAX as a joint venture partner, and a comprehensive feasibility study was completed in 1982. Planning permission for development and operation of a tungsten mine was granted in 1986 for a period of 35 years.

AMAX did not proceed with the project due to low tungsten prices and the property was transferred in 1986 to Canada Tungsten Mining Corporation Limited (an AMAX subsidiary). Canada Tungsten merged with Aur Resources Inc. in 1996 and Aur sold the tungsten assets to North American Tungsten Corporation Ltd. in 1997. The Hemerdon property continued to be held by North American Tungsten through its subsidiary, Amax Explorations of UK Inc., until 2003 when the lease was not renewed and the interest was written off.

Wolf Minerals acquired the property in December, 2007 and announced that it had signed a 40-year option and lease agreement for the mineral rights and rights to mine on the Hemerdon property with the Hemerdon Mineral Trust and The Olver Trust. The company also announced that it had entered into an agreement with Imerys Minerals Ltd. (Imerys) to purchase additional mineral rights and freehold land. Wolf Minerals subsequently moved forward with scoping, prefeasibility and feasibility studies and, further to completion of the mine construction and official handover of the processing plant to Wolf Minerals on 21st September 2015, is now fully operational.

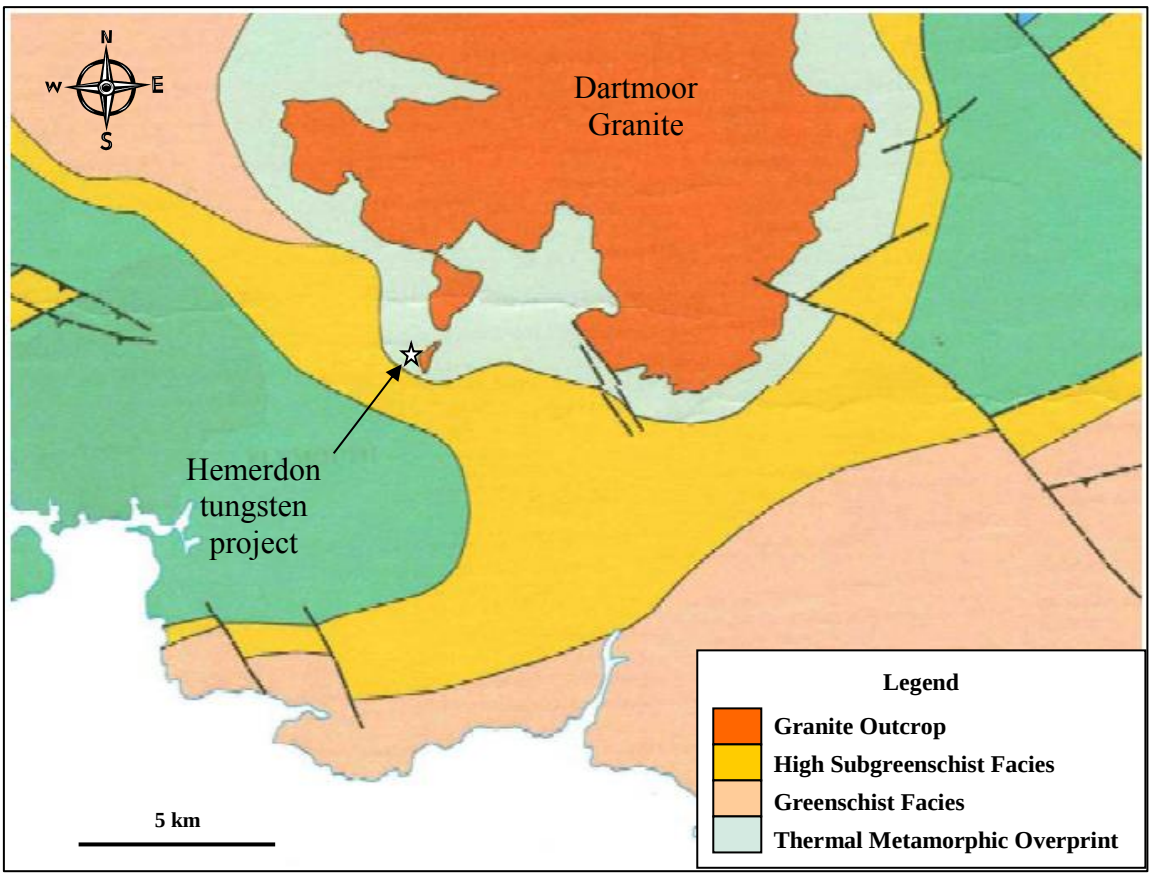
# 4.0 GEOLOGY AND MINERALISATION

## 4.1 REGIONAL GEOLOGY

The Hemerdon tungsten project is hosted within and around a dyke-like body of porphyritic granite known as the Hemerdon Granite and forms a cupola to the south-west of the Dartmoor Granite. The Dartmoor Granite forms the easterly extent of the Cornubian Batholith that was intruded into Lower Carboniferous shale, chert, and limestone during the late Carboniferous to early Permian. The westerly extent of the Cornubian Batholith is marked by the Isles of Scilly, located to the west of Cornwall.

The clastic metasediments exhibit a low greenschist facies regional metamorphic grade. The granite plutons have well developed contact metamorphosed aureoles, featuring hornblende hornfels and spotted pelites. The metamorphic grades in the area of the Hemerdon tungsten project are shown in Figure 4.1.

**Figure 4.1: Metamorphic Grades around the Southern Area of the Dartmoor Granite**




Source British Geological Survey adapted by Micon 2014

Mineralisation of the Cornubian Batholith can be divided into five phases, beginning with the formation of exoskarns caused by the metasomatism of shales and metabasalts. The skarns locally contain economic concentrations of tin, copper, iron and arsenic. Minerals formed in this phase are dated close to the crystallisation age of the associated pluton.

Tin-tungsten mineralisation is the second phase and is associated with the greisenisation and tourmalinisation of the granite by high-temperature late magmatic fluids rich in volatiles.

Veins of cassiterite and wolframite are found associated with the greisens, the former deposited by high salinity, low $CO_2$, fluids and the latter by low salinity, high $CO_2$, fluids. Muscovites within the greisens give cooling ages similar to magmatic muscovite in the relevant granite.

The third and main phase of mineralisation occurred at lower temperatures and involves deposition in veins by fluids circulating within the country rock, leaching out tin, copper and arsenic. These veins are typically comprised of quartz-tourmaline-chlorite-sulphide-fluorite, with tin, copper, lead, zinc, iron and arsenic sulphides. The dominant trend for mineral veins of this stage is west-east and post-date the intrusion age by 25 Ma to 40 Ma.

Lead and zinc mineralisation characterises the fourth phase and is hosted by north-south to northwest-southeast trending veins, known locally as the 'crosscourses' as they cross-cut the earlier west-east trending veins. The fluids responsible for the mineralisation were derived from the Permo-Triassic sedimentary sequences that once overlaid the area. The fluid circulation was driven by the high heat flow of the granite during the late Triassic period.

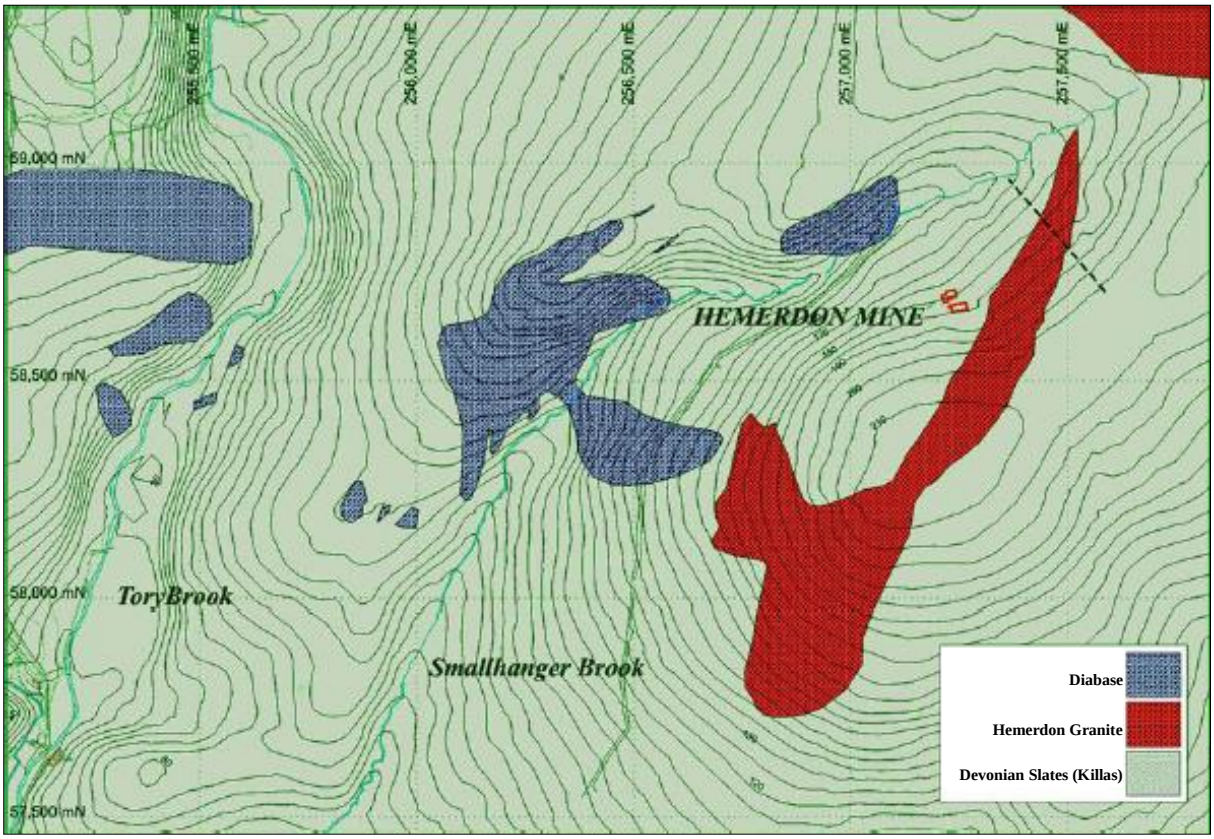
The fifth and final stage of mineralisation involves the formation of China Clay through the kaolinisation of feldspars, possibly resulting from intense supergene weathering during the Cretaceous to Cenozoic periods, or perhaps as a result of hydrothermal alteration. Kaolinisation is observed throughout the Cornubian Batholith and has locally formed large economic deposits such as Lee Moor on the western edge of the Dartmoor Granite.

## 4.2 LOCAL GEOLOGY

Tin and tungsten mineralisation at Hemerdon occur in a stockwork of greisen-bordered quartz veins, bearing wolframite and cassiterite, with minor sulphide minerals. The mineralisation is hosted by an elongate granite stock emplaced in Upper Devonian Slate, with interbedded basic volcanic rocks that are mapped as diabase. Although the veins that host the mineralisation are principally in the granite, the veins also occur in the host slates. Figure 4.2 shows the geology of the area around the Hemerdon Project site.

The Hemerdon Granite outcrops 1,200 m northwest of the village of Sparkwell and is essentially a north-northeast-trending dyke, approximately 140 m wide and dipping steeply towards the east. At least three sets of veins have been distinguished, some lacking greisen borders and others bearing feldspar and hematite in addition to quartz. The stockwork has a strike length of at least 600 m from north-northeast to south-south-west and has been demonstrated by drilling to persist to 400 m below ground surface.

**Figure 4.2: Geological Map of the Area around the Hemerdon Project Site**




Source: Wolf Minerals, 2011

### 4.2.1 Upper Devonian Slate

The Upper Devonian Slates are known locally as killas and form part of the Tavy Formation. The killas are fine grained, biotite-andalusite hornfels, usually soft, friable and highly fractured at surface becoming more competent at depth. These strata are dominantly comprised of grey mudrocks with common silt bands and laminations. The slates have been folded into recumbent south-facing folds and exhibit a well-developed southward dipping cleavage fabric. Intense folding is observed locally. Close to the granite the killas is dark grey and silicified (hornfels). Away from the metamorphic aureole of the Dartmoor Granite, the slates of the Tavy Formation are dominantly greenish in colour and very micaceous.

### 4.2.2 Basic Igneous Rocks

The basic igneous rocks outcropping in the Hemerdon area are small, infrequent and comprised of fine grained aphanitic basalt that are locally termed greenstone. These basic igneous rocks are contemporaneous with the Upper Devonian Slates. Tuffs and volcanic breccias have also been identified 2.6 km from the Hemerdon Project site in BGS diamond drilling near Slade Hall.

### 4.2.3 Hemerdon Granite

The granite is medium grained, porphyritic and comprises quartz, orthoclase, plagioclase and muscovite. The granite contains accessory biotite that has been chloritised and fine needles of disseminated tourmaline. The feldspar crystals exhibit local hematite and limonite staining.

The greisenisation of the granite on vein contacts has resulted in the replacement of the original feldspars with fine grained quartz and a lithium rich muscovite. Cassiterite crystals measuring 5 µm to 100 µm diameter occur in the greisen with occasional wolframite and arsenopyrite crystals.

Tourmaline is a widely distributed hydrothermal alteration product in the Hemerdon Granite, occurring as small veinlets within veins, as inclusions in quartz crystals and as masses of fine acicular crystals within vugs. Tourmaline also occurs massively in quartz-tourmaline shear zones and as breccias in xenoliths of the Upper Devonian Slate.

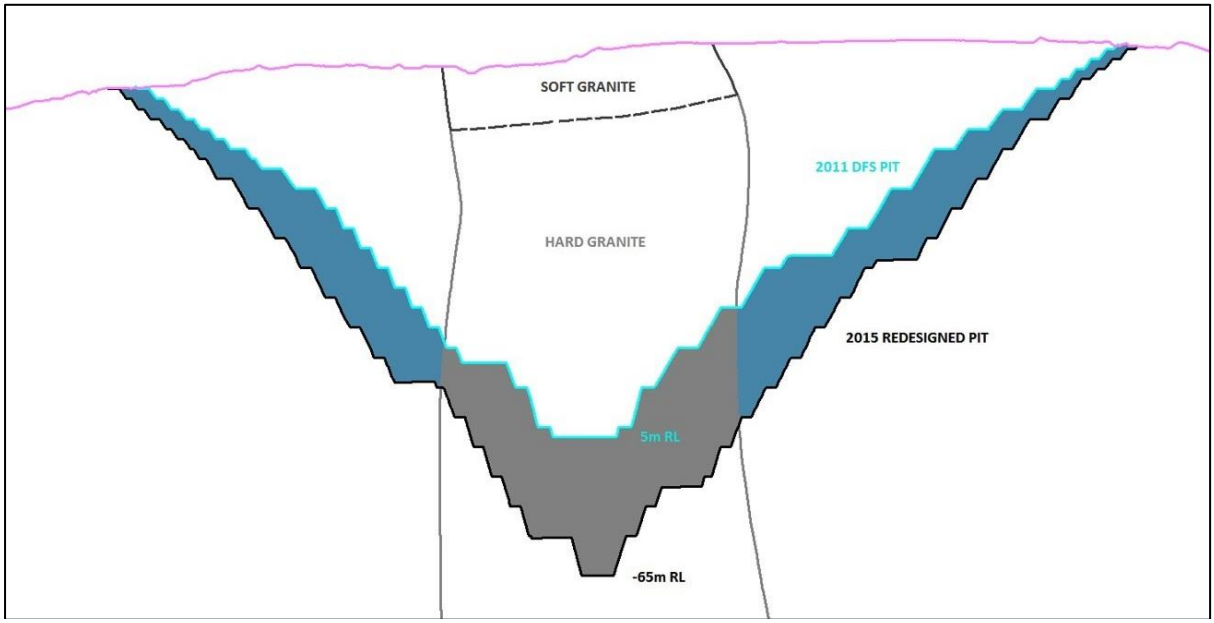
### 4.2.4 Weathering

Surficial weathering of the granite has altered the primary quartz, feldspar and muscovite assemblage to clay minerals, mainly kaolinite and remnant quartz. The weathered zone extends to depths greater than 20 m and is also evident in the slates, which have altered to a weak friable mudrock, and in the extreme case to brown or yellow-brown clay. This is consistent with the deep Tertiary weathering profile observed in parts of Dartmoor and in the more elevated parts of south Devon. The friable surface granite is known locally as Soft Granite and is a separate unit in the geological model.

### 4.2.5 Hemerdon Mineralisation

The Hemerdon granite becomes increasingly kaolinised and greisenised as it plunges beneath a shallow killas cover towards the Crownhill granite to the north-northeast. Contacts with the surrounding killas material are steeply dipping on the northwest and southeast contacts with minor local variations as shown in Figure 4.3.

**Figure 4.3: Cross-Section of the Hemerdon Deposit**




Source: Wolf Minerals, 2015

The granite at the surface is intensely kaolinised to soft, fissile, white, brown and red clays. More competent kaolinised granite is found in areas of stronger greisen alteration. The granite becomes increasingly competent with depth.

The main mineralisation is of wolframite with arsenopyrite and minor cassiterite. Due to surface weathering by meteoric waters the arsenopyrite has been oxidised and the iron and arsenic remobilised to form scorodite, an iron arsenate mineral, in the upper part of the resource.

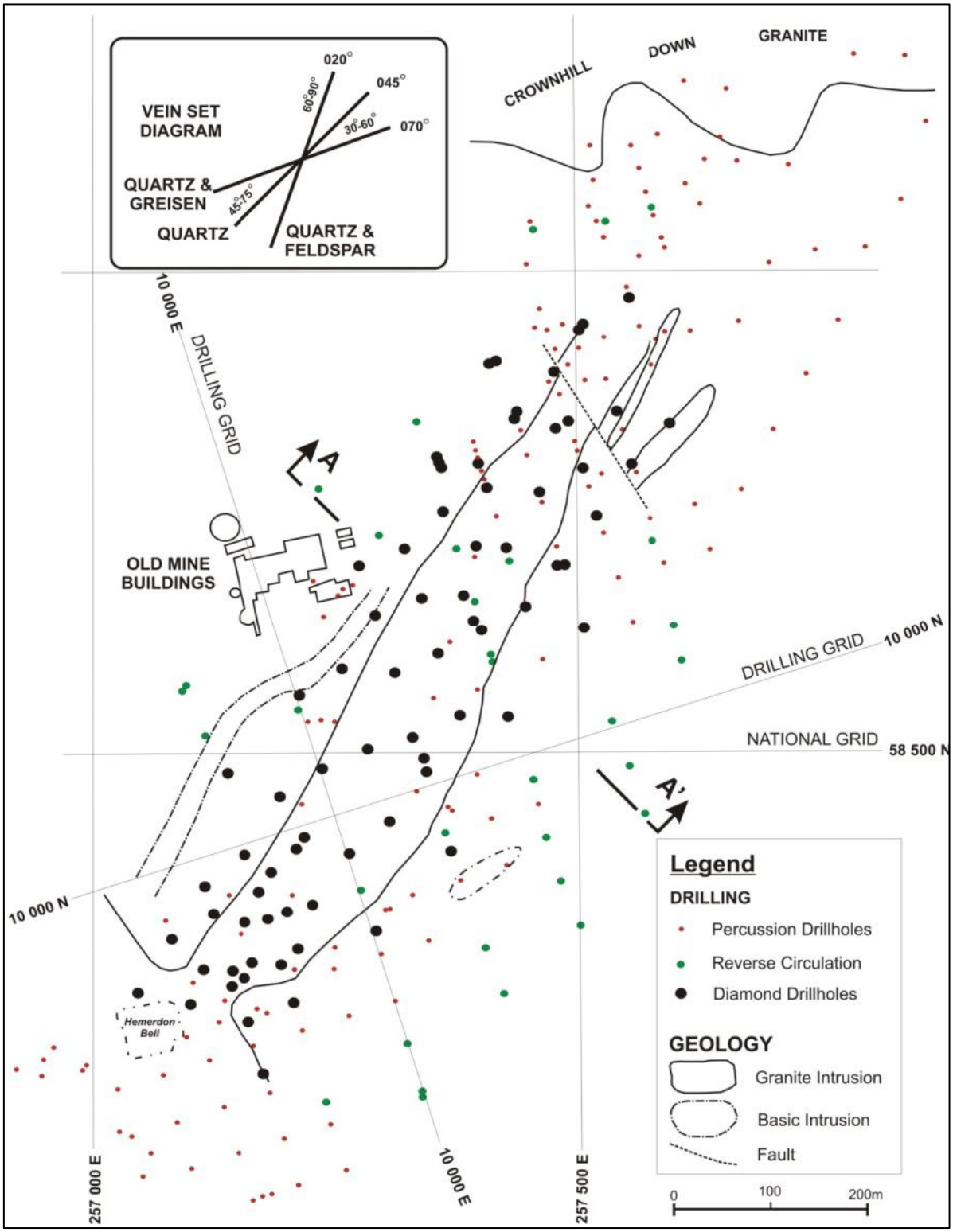
The sheeted vein system, which pervades the Hemerdon granite and carries the tungsten and tin minerals, is characterised by three main vein sets:

- Quartz veins with greisen borders strike 070° and dip from 30° to 60° northwest;
- Quartz veins strike 045° and dip from 45° to 75° northwest; and,
- Quartz-feldspar veins strike 020° and dip from 60° to 90° to the west or east.

The veins vary in width from 0.5 cm to 20 cm and the average thickness is approximately 1.5 cm. Greisen borders are often five to ten times the width of the associated quartz vein.

Figure 4.4 shows the exploration drilling completed by AMAX along with the vein set diagram.

**Figure 4.4: AMAX Exploration Drilling of the Hemerdon Deposit**




Source: Wolf Minerals, 2011

# 5.0 MINERAL RESOURCE ESTIMATE

## 5.1 EXPLORATION HISTORY

The major portion of exploration of the Hemerdon tungsten deposit was conducted by AMAX, which included over 25,400 m of diamond core, reverse circulation (RC) and air-flush percussion drilling over five phases between 1976 and 1981 (Table 5.1). AMAX subsequently produced a feasibility study in 1982.

**Table 5.1: Summary of AMAX Drilling at Hemerdon Project**

| Drilling Method | Total Number of Holes | Metres Drilled (m) |
|---|---|---|
| Percussion | 416 | 8,022 |
| Reverse Circulation | 39 | 3,596 |
| Diamond | 77 | 13,782 |
| **Total** | 532 | 25,400 |

Holes were spaced on a 50 m by 50 m grid pattern orientated perpendicular to the strike of the main mineralised vein-sets and dipping predominantly at -60° to intersect the majority of veining at right angles. The majority of the holes were drilled to a depth of 200 m below surface with two holes drilled to 400 m indicating no change in mineralisation style or tenor. Of the 25,400 m of total AMAX drilling at Hemerdon, 19,696 m are exploration holes in the granite mineralisation and 5,704 m are geotechnical holes or drilling the metasediment mineralisation (see Figure 4.4).

An additional drilling programme was undertaken in 2008 by Wolf Minerals (Figure 5.1), to complement the existing AMAX data. Local drilling contractor Hydrock was engaged to carry out a diamond drilling programme that was completed by the end of September 2008. The objective of the drilling was to increase confidence and understanding of the style and distribution of mineralisation within the deposit. Additional information for geotechnical, hydrogeological and metallurgical analysis was also obtained (Table 5.2).

**Table 5.2: Summary of Wolf Minerals Drilling at Hemerdon Project**

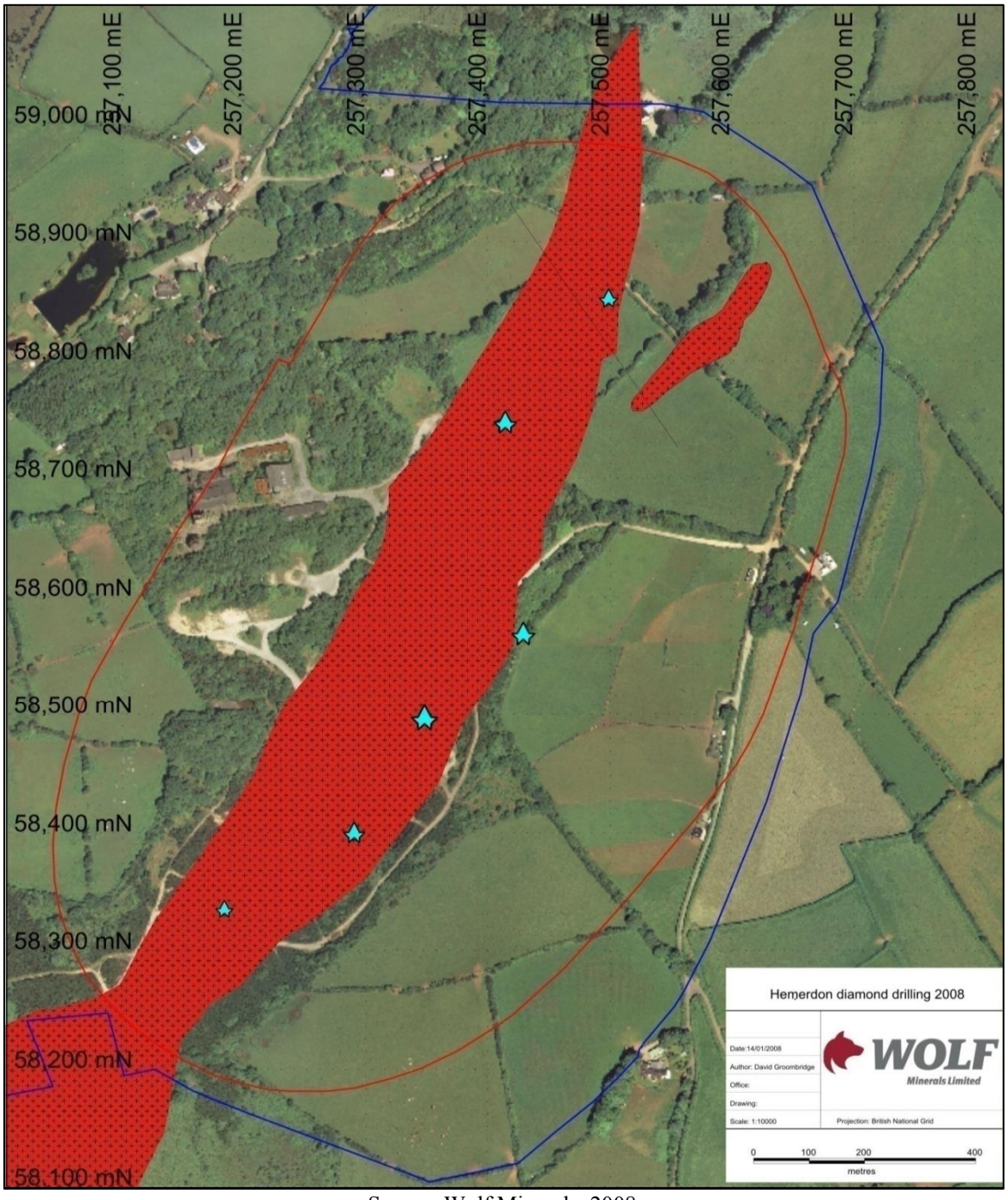
| Drilling Method | Total Number of Holes | Metres Drilled (m) |
|---|---|---|
| Diamond – Confirmation Drilling | 6 | 1,064 |
| Diamond – Geotechnical Drilling | 6 | 1,144 |
| Reverse Circulation – Grade Control Drilling | 953 | 23,306 |

Six diamond drill holes, dipping -60° and orientated perpendicular to the strike of the dominant mineralised vein system were drilled, a total of 1,064 m. The majority of holes targeted the granite – sediment contact and beyond to increase the understanding of the mineralisation at these contacts, and within the sedimentary country rock. Drilling was completed on 100 m spacing.

The Phase 1 Grade Control drilling programme was undertaken between 7th October 2014 and the 27th August 2015. Grade control drill holes were drilled on a 12.5 m by 12.5 m (x, y) grid, and ranged in depth from 10 m to 40 m. The average hole length was 28.31 m. The

grade control drilling tested the upper 60 m of the resource block model. Quality control and quality assurance samples were collected and analysed as part of the grade control sampling in line with recognised best practice.

**Figure 5.1: Plan Map of 2008 Diamond Drilling at Hemerdon**




Source: Wolf Minerals, 2008

## 5.2 SAMPLE PREPARATION, ANALYSIS AND QUALITY CONTROL

The mineral resource estimate for the Hemerdon tungsten deposit is based on 309 drill holes and 4,765 five metre down-hole composites. Only the granite domains are included in the resource estimate, as the metasediments are currently considered uneconomic due to a low process recovery.

The sample preparation and assay methods in the Wolf Minerals 2008 programme are very similar to those implemented in the 1976 to 1981 AMAX programme. In both cases the samples from diamond drill core were assayed in three metre lengths. The core was cut in half, one half retained and the remainder crushed and prepared for assay.

The 1976 to 1981 AMAX programme of sampling and sample preparation procedures were rigorously controlled and were assessed and verified by Professor Michel David, geostatistics consultant to the project.

The Wolf Minerals 2008 assay samples were sent to Stewart Group OMAC Laboratories located in Loughrea, Ireland for X-ray fluorescence analysis. The remaining half core was shipped to Australia for metallurgical test-work. Assays of standards used produced acceptable results and a total of 42 pulp duplicates were taken randomly and re-assayed with XRF and showed repeatability.

Although there is a lack of QA/QC assay data for the historical drilling, it is Micon's opinion that there is a very low risk that the assay data is problematic. The methods used to obtain tungsten and tin analyses were based on standard procedures that are still in use today and the data was vetted by a renowned geostatistician. The analysis of standard reference materials by Wolf Minerals as part of its QA/QC programme demonstrated the variability inherent in tungsten assays and it is likely that the AMAX assays are subject to same degree of analytical error, which overall is considered by Micon to be acceptable. Quality control and quality assurance practices in place for the grade control drilling programme follow best industry practice and confirmed the assay data to be reliable.

## 5.3 MINERAL RESOURCE ESTIMATE

Wolf Minerals appointed SRK Consulting to estimate Hemerdon mineral resources and SRK has utilised state-of-the-art geostatistical methods in developing the current mineral resource model. Micon has reviewed the methodologies employed and has confirmed that the mineral resources estimated for the Hemerdon Granite are probably conservative and appropriate. It is Micon's opinion that the SRK mineral resource model with block size of 25 m by 25 m by 10 m, and block grades interpolated using ordinary kriging, is probably subject to over-smoothing of tungsten grades, but globally it is likely to be accurate within the confidence limits accepted for Measured and Indicated mineral resource estimates. There is potential to improve mill feed grades if a comprehensive grade control programme is rigorously applied. The indication from mining to date is that the grade control programme described above generally yields ore of slightly higher grade than expected from the SRK mineral resource model. This positive trend has been consistent during mining to date but the improvement in grade cannot be confirmed until the plant achieves a steady state of production and a reliable metallurgical balance can be developed.

The JORC Code (2012) defines a mineral resource as follows: "A 'Mineral Resource' is a concentration or occurrence of solid material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction." Due to its refractory nature, there appears, at present, to be no prospect of economic extraction of tungsten and tin mineralisation from the killas. Only Hard and Soft Granite are reported as Hemerdon mineral resources in Table 5.3.

**Table 5.3: Hemerdon Mineral Resources at 1st March 2015 (Micon)**

| Material | Category | Tonnage (Mt) | $WO_3$ (%) | Sn (%) | $WO_3$ (k mtu) | Sn Metal (t) |
|---|---|---|---|---|---|---|
| Hard Granite | Measured | 34.5 | 0.17 | 0.02 | 5,865 | 6,900 |
| | Indicated | 17.3 | 0.16 | 0.02 | 2,768 | 3,460 |
| | Measured + Indicated | 51.8 | 0.17 | 0.02 | 8,806 | 10,360 |
| | Inferred | 86.1 | 0.14 | 0.02 | 12,054 | 17,220 |
| Soft Granite | Measured | 5.4 | 0.19 | 0.03 | 1,026 | 1,620 |
| | Indicated | 1.4 | 0.18 | 0.03 | 252 | 420 |
| | Measured + Indicated | 6.8 | 0.19 | 0.03 | 1,292 | 2,040 |
| | Inferred | 0.5 | 0.13 | 0.03 | 65 | 150 |
| **Total** | **Measured** | **39.9** | **0.18** | **0.02** | **7,182** | **7,980** |
| | **Indicated** | **18.7** | **0.16** | **0.02** | **2,992** | **3,740** |
| | **Measured + Indicated** | **58.6** | **0.17** | **0.02** | **9,962** | **11,720** |
| | **Inferred** | **86.6** | **0.14** | **0.02** | **12,124** | **17,320** |

The tungsten mineral resources presented in Table 5.3 are based on Uniform Conditioning and a cut-off grade of 0.063% W. Ordinary kriging was used to interpolate Sn grades. Hemerdon mineral resources are provided in the SRK Project Memo dated 23rd March 2015.

In the DFS Wolf Minerals declared JORC Code mineral resources for the killas mineralisation. Measured mineral resources at a 0.05% W cut-off grade were reported to be 47.47 Mt at a grade of 0.079% W and 0.02% Sn. Indicated mineral resources were reported to be 26.29 Mt at a grade of 0.072% W and 0.02% Sn. A further 203.26 Mt at a grade of 0.087% W and 0.02% Sn were reported to be Inferred mineral resources. The DFS also reports that metallurgical recovery for killas is estimated to be ~4% for tungsten and ~10% for tin. At this point in time the killas mineralisation fails to demonstrate "reasonable prospects for eventual economic extraction" as required for mineral resources as defined by the JORC Code (2012). It therefore exists as tungsten-tin mineralisation that may be converted to a resource in future if appropriate tungsten and tin recovery flowsheets can be developed.

# 6.0 MINING

## 6.1 ORE RESERVES

The Model is based on the mineral reserve from the pit optimisation study that was conducted at the beginning of 2015.

The total Proven and Probable ore reserve is 35.7 Mt at a grade of 0.14% W and 0.03% Sn. Hard Granite comprises 30.4 Mt of the mining ore reserve, the balance is Soft Granite. The cut-off grade used was 0.05% W. A total of 60.5 Mt of waste is associated with the ore, giving an overall waste to ore strip ratio of 1.7 to 1.

The Hemerdon ore reserves are defined at a cut-off grade of 0.05% W or 0.063% $WO_3$, excluding tin credits. Tungsten concentrates are normally sold in metric tonne units (mtu) comprising 10 kg of $WO_3$. Wolf Minerals has assumed that the price received for tungsten in concentrates will be at a discount to the prevailing APT price. A summary of the Ore Reserves are shown in Table 6.1.

**Table 6.1: Ore Reserves as at 25th March 2015**
**(Cut-Off Grade 0.063% $WO_3$ or 0.05% W)**

| Classification | Units | Hard Granite | Soft Granite | Total |
|---|---|---|---|---|
| **Proven** | Mt | 23.6 | 4.3 | 27.9 |
| | $WO_3$% | 0.18 | 0.20 | 0.19 |
| | W% | 0.143 | 0.159 | 0.151 |
| | Sn% | 0.03 | 0.03 | 0.03 |
| | $WO_3$ k mtu | 4,248 | 860 | 5,108 |
| | Sn t | 7,080 | 1,290 | 8,370 |
| **Probable** | Mt | 6.8 | 1.0 | 7.8 |
| | $WO_3$% | 0.15 | 0.15 | 0.15 |
| | W% | 0.119 | 0.119 | 0.119 |
| | Sn% | 0.02 | 0.03 | 0.02 |
| | $WO_3$ k mtu | 1,020 | 150 | 1,170 |
| | Sn t | 1,360 | 300 | 1,660 |
| **Total** | **Mt** | 30.4 | 5.3 | 35.7 |
| | $WO_3$% | **0.18** | 0.19 | 0.18 |
| | W% | **0.143** | 0.151 | 0.143 |
| | Sn% | 0.02 | 0.03 | 0.03 |
| | $WO_3$ k mtu | 5,268 | 1,010 | 6,278 |
| | Sn t | 8,440 | 1,590 | 10,030 |

## 6.2 MINE PRODUCTION

The Drakelands mine production rate has been set at approximately 3 Mt of ore per annum, based on a three shift cycle for seven days per week on a trial basis until 31st March 2016 and returning to 5.5 days a week after that. The planned mine life is 13 years and a summary of the production schedule is shown in Table 6.2. The 3 Mt per annum lasts for another 11 years and then drops away in the final year due to mine exhaustion. The waste schedule shows a level of 3.4 Mt per annum in 2016, increasing to a peak of 15.0 Mt in 2019 then decreasing and tapering off in the final three years.

**Table 6.2: Drakelands Mining Schedule**

| Year Ending | Unit | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hard Granite Ore** | t | 302,328 | 1,200,455 | 2,116,771 | 2,067,825 | 2,407,383 | 2,999,288 | 3,001,289 | 3,001,499 | 3,002,203 | 3,001,179 | 2,890,825 | 547,352 | 26,538,397 |
| Tungsten grade | W% | 0.19 | 0.16 | 0.14 | 0.14 | 0.13 | 0.13 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.16 | 0.14 |
| Tin grade | Sn % | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Contained tungsten | W t | 580 | 1,924 | 3,014 | 2,971 | 3,206 | 4,002 | 4,218 | 4,511 | 4,494 | 4,396 | 4,012 | 871 | 38,199 |
| Contained tin | Sn t | 89 | 284 | 547 | 632 | 637 | 825 | 728 | 621 | 556 | 573 | 568 | 97 | 6,157 |
| | | | | | | | | | | | | | | |
| **Soft Granite Ore** | t | 2,773,696 | 1,800,624 | 885,537 | 934,386 | 595,003 | 2,534 | - | - | - | | | | 6,991,780 |
| Tungsten grade | W% | 0.18 | 0.16 | 0.15 | 0.13 | 0.14 | 0.14 | - | - | - | | | | 0.16 |
| Tin grade | Sn % | 0.03 | 0.04 | 0.03 | 0.03 | 0.04 | 0.06 | - | - | - | | | | 0.03 |
| Contained tungsten | W t | 4,886 | 2,839 | 1,363 | 1,183 | 825 | 3 | - | - | - | | | | 11,100 |
| Contained tin | Sn t | 913 | 633 | 289 | 244 | 212 | 2 | - | - | - | | | | 2,293 |
| | | | | | | | | | | | | | | |
| **Ore mined** | t | 3,076,024 | 3,001,079 | 3,002,308 | 3,002,212 | 3,002,386 | 3,001,823 | 3,001,289 | 3,001,499 | 3,002,203 | 3,001,179 | 2,890,825 | 547,352 | 33,530,179 |
| Tungsten grade | W% | 0.18 | 0.16 | 0.15 | 0.14 | 0.13 | 0.13 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.16 | 0.15 |
| Tin grade | Sn % | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| Contained tungsten | W t | 5,466 | 4,784 | 4,408 | 4,257 | 4,052 | 4,008 | 4,233 | 4,541 | 4,512 | 4,397 | 4,039 | 876 | 49,573 |
| Contained tin | Sn t | 1,010 | 924 | 850 | 851 | 833 | 829 | 734 | 621 | 552 | 574 | 570 | 97 | 8,445 |
| | | | | | | | | | | | | | | |
| **Total Waste** | t | 3,412,159 | 4,841,251 | 6,840,583 | 15,375,990 | 12,323,299 | 5,774,352 | 3,756,658 | 2,606,080 | 1,710,450 | 783,752 | 547,857 | 56,579 | 58,029,010 |
| **Strip Ratio** | | 1.11 | 1.61 | 2.28 | 5.12 | 4.10 | 1.92 | 1.25 | 0.87 | 0.57 | 0.26 | 0.19 | 0.10 | 1.73 |

The overall tungsten and tin grades remain relatively consistent throughout the mine life. The only grade trend that can be reached, from the mining schedule, is that the higher grade material will be mined early in the mine life, but the grades during the middle and end periods are not far below the peaks.

Waste from pre-production was used to construct the starter wall for the tailings storage facility, haul roads and the ROM pad. A total of 60 Mt of waste will be mined during the mine life, some of which will be used to complete the remainder of the tailings encapsulation and the remaining waste will be transported to a waste dump.

Mining contractors are engaged to perform all mine operations, providing more flexibility, lower capital cost and reducing some of the administration burden. The mining contractor was also utilised for the construction earthworks.

The mining contractor has supplied a smaller mining fleet for the pre-production and Phase 1 production period consisting of 70 t backhoe excavators, 40 t articulated dump trucks and ancillary equipment. These will be replaced with a larger fleet for mining during the Phase 2 production period. Mining will be carried out with a standard drill and blast method on 5 m benches. The load/haul equipment fleet to be used by the contractors will be 120 t backhoe excavators and 40 t articulated dump trucks and 100 t off road haul trucks. It is expected that 70% of run of mine ore will be hauled directly to the crusher with the remaining 30% re-handled through a stockpile.

**Micon Comment**

Micon believes that the arrangements for mining are reasonable and production rates can be achieved on an on-going basis once initial production rates have been achieved. Wolf Minerals has applied for an extension of the seven days per week production trial so that an assessment can be made whilst operating during the drier months of the year.

## 6.3 MINING COSTS

### 6.3.1 Mining Services Contract

The Mining Services Contract (MSC) entered into on the 1st July 2013 with C A Blackwell (Contracts) Ltd is based on "Model Mining Services Contract Approved Version 3" developed by the Board of AMPLA Ltd. Amendments have been made to anglicise the document, additional clauses over and above those recommended in the model have been included.

The scope of work was split into two phases:

- Phase 1: Start-up, stripping, roads, starter dam; and,
- Phase 2: On-going mine production.

Payment is based upon lump sum mobilisation and demobilisation fees, monthly management fees, and schedules of rates. The schedules of rates are the subject of a Rise and Fall Adjustment clause, and account for proportions of labour, fuel, consumables, explosives, spare parts, and a fixed component.

The base date of the adjustment formula is 31st December 2012, and the base cost of fuel is £0.77 per litre.

Adjustments are made in accordance with an agreed formula based upon the UK Building Cost Adjustment Formulae Indices (Civil Engineering Series) published by the UK Cost Information Services (BCIS) by the Royal Institution of Chartered Surveyors (RICS).

The following table indicates the change in the indices to November 2015. The Rise and Fall Indices for the contract mining is displayed in Tables 6.3 and 6.4.

**Table 6.3: Mining Rise and Fall Indices**

| Index | Base Date | January 14 | January 15 | August 15 | November 15 |
|---|---|---|---|---|---|
| MO | 1312 | | | | |
| M1 | | 1327 | 1339 | 1349 | *1356* |
| LO | 1938 | | | | |
| L1 | | 1972 | 2018 | 2099 | *2099* |
| PO | 1312 | | | | |
| P1 | | 1327 | 1339 | 1349 | *1356* |
| TO | 1312 | | | | |
| T1 | | 1327 | 1339 | 1349 | *1356* |
| FO | 8662 | | | | |
| F1 | | 7578 | 5014 | 4802 | *4759* |

Note: Provisional Indices in Italics

**Table 6.4: Adjustment to Mining Rates for Rise and Fall Indices**

| Month | Rev Indices | Reduction (%) |
|---|---|---|
| Oct 2013 | 97.55 | 2.45 |
| Jun 2014 | 98.33 | 1.67 |
| Sep 2014 | 96.22 | 3.78 |
| Oct 2014 | 94.95 | 5.05 |
| Nov 2014 | 94.29 | 5.71 |
| Dec 2014 | 91.37 | 8.63 |
| Jan 2015 | 89.22 | 10.78 |
| Feb 2015 | 90.58 | 9.42 |
| Mar 2015 | 90.76 | 9.24 |
| Apr 2015 | 91.21 | 8.79 |
| May 2015 | 91.94 | 8.06 |
| Jun 2015 | 91.23 | 8.77 |
| Jul 2015 | 91.62 | 8.38 |
| Aug 2015 | 90.14 | 9.86 |
| *Sep 2015* | *89.63* | *10.37* |
| *Oct 2015* | *90.17* | *9.83* |
| *Nov 2015* | *89.90* | *10.10* |

Note: Provisional Indices in Italics

Using the revised November 2015 indices results in a multiplier of 0.899, indicating a reduction of just over 10% to the schedule rates is applicable for November 2015. The reduction in fuel cost since the base date of 31st December 2012 is the main contributing factor. Fuel indices have revised from 8662 in December 2012 to 4838 in October 2015.

All construction works under Phase 1 have been completed and ore production mining is underway. The quoted rates for Phase 2 works allowed for the amortisation of new mining equipment over the Phase 2 period of the MSC. Agreement has been reached whereby the delivery of the new mining equipment will be delayed from 8th August 2015 until 1st April 2016 with a commensurate extension of the Phase 1 period and its associated lower mining rates. The 60 month Phase 2 mining period will be maintained to allow for the planned amortisation of the new mining equipment. On delivery of the new mining equipment an Early Termination amount of £3.5 million reducing to zero after 60 months is applicable. Any Early Termination of the MSC is entirely at Wolf's discretion.

The MSC contains a clause whereby all historic (1 year) payment claims are required to be resolved; all claims that fall into this category have been identified and agreed. Wolf has accounted for the anticipated final settlement.

The MSC includes an allowance for drilling and blasting during Phase 2 operations. The contract specifies a maximum amount to be charged by the contractor for these works together with a clause to identify cost savings when the drill and blast subcontractor is engaged. Any savings realised are to be split equally between Wolf Minerals and the contractor. The contractor is currently preparing to commence blasting operations in January 2016. The final achieved drill and blast rates are the subject of a specified price rise and fall adjustment formula and a suitable explosive price index is to be agreed between the parties. The drill and blast rates contained within the Model reflect the maximum amounts to be charged by the contractor without any adjustment.

The blasting rates in the Model have utilised three of the rates contained within the MSC (Table 6.5).

**Table 6.5: Blasting Rates**

| MSC Original Unit Rate (£) | Unit Rates Used (£) |
|---|---|
| 0.50 | 0.50 |
| 0.65 | Not used |
| 0.85 | 0.85 |
| 1.22 | Not used |
| 1.40 | 1.40 |

### 6.3.2 Mining Cost Assumptions

The fixed and variable mining cost assumptions used in the Model are shown in Tables 6.6, 6.7 and 6.8. The information in these tables has been sourced from the Blackwell Price Schedule for Phase 1 and 2 of the MSC.

**Table 6.6: Fixed Monthly Management Charge**

| Period | Cost (£) |
|---|---|
| Phase 1 | 40,566 |
| Phase 2 - Year 1 (2016) | 70,583 |
| Phase 2 - Year 2 (2017) | 68,013 |
| Phase 2 - Year 3 (2018) | 68,000 |
| Phase 2 - Year 4 (2019) onwards | 65,916 |

**Table 6.7: Annual Dewatering Allowance**

| Period | Cost (£) |
|---|---|
| Pre-Production | 0 |
| Year 1 | 48,000 |
| Year 2 | 60,000 |
| Year 3 | 72,000 |
| Year 4 | 96,000 |
| Year 5 | 120,000 |
| Year 6 | 120,000 |
| Year 7 | 144,000 |
| Year 8 | 168,000 |
| Year 9 | 192,000 |

**Table 6.8: Variable Re-Handling Costs**

| Category | Cost per Tonne Milled (£/t) |
|---|---|
| Ore Re-handle (1-100 m) | 0.50 |
| Ore Re-handle (100-200 m) | 0.75 |
| Ore Re-handle determination | 0.15 |

## Micon Comment

Micon has reviewed the mining assumptions and finds the Dewatering Allowance and Re-handling Costs to be appropriate. The Fixed Monthly Management Charge for Phase 1 and 2 in the Model differs to the Blackwell Price Schedules. Micon understands that Wolf Minerals and Blackwell have agreed to omit the Infrastructure Management (septic) item from the Monthly Management Fee schedule for Phase 2. Micon further understands that the agreed prices for Phase 1 have been updated in the Model. Micon has not reviewed any document confirming the adjustment.

The reduction in mining rates applicable to the rise and fall adjustment clause have not been allowed for or projected in the Model.

Micon has been unable to determine the agreed and finalised rates applicable to the drill and blast elements of the MSC, but can confirm that three of the maximum rates have been adopted in the Model.

On 11th January 2016, Hargreaves Services Plc announced the acquisition of C A Blackwell Group Limited. Hargreaves is a public company traded on UK AIM market (HSP.L) with some 2,300 employees and an annual turnover in excess of £660 million. The main areas of business are; services provider to the energy, waste, steel and transport sectors, coal importation into the UK, importation of coke and minerals into Europe, and bulk haulage transport.

### 6.3.3 Operating Costs

Operating costs will be £185.2 million over the remaining life of the Drakelands mine at a unit cost of £2.02 per tonne of total material moved. The operating costs consist of Variable and Fixed mining costs. The Fixed Costs are divided into Direct Fixed Mining Costs and Dewatering Allowance.

The Variable Costs embraces all the costs that are susceptible variable unit costs depending on ore and waste movement, the working bench in the pit, ore re-handling distance and rejects.

**Micon Comment**

Micon has reviewed the operating costs and consider them to be sound. Micon has noted that Phase 1 has been extended to the end of March 2016 and the Phase 2 rates are scheduled to commence on the 1st April 2016.

Prior to 31st December 2015, all ground breaking activity has been performed by ripping and a flat rate of £1.25 per bcm has been applied. From January 2016, drilling and blasting will commence; the Model costs are based on the Phase 2 drill and blast rates from the MSC.

### 6.3.4 Sustaining Capital Costs

The Model includes £6.1 million allocated to sustaining capital costs over the remaining life of the mine, relating to further development of the Mining Waste Facility.

**Micon Comment**

Micon has examined the sustaining capital costs and considers them to be appropriate.

### 6.3.5 Conclusions

Micon considers the mining to be robust and any discrepancies unlikely to have a material impact on the project economics.

# 7.0 MINERAL PROCESSING AND METALLURGICAL TESTING

## 7.1 GRES EPC CONTRACT

The process plant design, construction and commissioning was awarded to GR Engineering Services (UK) Limited (GRES) of Western Australia, an engineering, consulting and contracting company specialising in fixed price engineering design and construction services to the resources and mineral industry.

The basis of the contract entered into on 5th March 2013 between Wolf Minerals Ltd (Wolf Minerals) and GR Engineering Services (UK) Limited is essentially the FIDIC Conditions of Contract for EPC Turnkey Projects "Silver Book" with some minor amendments.

The full contract price of GB £75,455,448 comprising a fixed amount of GB £72,051,169 and a provisional sum of GB £3,404,280 is composed of amounts in different currencies as indicated:

| | |
|---|---|
| Fixed amount | GB £57,722,813 |
| | AU $19,539,688 at exchange rate of GB £1= AU $1.609 |
| | US $3,511,470 at exchange rate of GB £1 = US $1.608 |
| Total | GB £72,051,169 |

Provisional Sum plus margin

| | |
|---|---|
| | GB £3,217,288 |
| | AU $300,857 at exchange rate of GB £1 = AU $1.609 |
| Total | GB £3,404,280 |

After contract signature, design of the process facility continued, together with formal planning and environmental permitting by Wolf Minerals. The permitting process revealed project constraint information not previously known by Wolf Minerals or GRES. As a result of this, and to ensure relevant approved permit conditions were fully satisfied, some sections of the process plant were the subject of a redesign and redefinition. The resulting amendments to the design were completed and incorporated into the finalised design.

These amendments and construction changes resulted in a final EPC cost of GB £84.3 million.

Two payless notices have been issued by Wolf under the contract; these sums have not been credited into the final EPC cost and are available pending final resolution.

The plant takeover occurred in September 2015 and the defects liability period ends in September 2016. GRES remains on site assisting Wolf Minerals with the ramp up activities and attending the remedial actions at their cost, where required.

### 7.1.1 Micon Comment

The final costs for the EPC contract have been used in the Model.

Micon is not aware of any outstanding counter claim associated with this contract.

The monetary value and responsibility for any remedial measures will be determined over the defects period. Micon is not aware of any allowances in the Model for Wolf Minerals to bear the cost of any works.

## 7.2 METALLURGICAL TESTING

### 7.2.1 AMAX Testwork

In 1982, AMAX conducted an extensive evaluation of the Hemerdon Project that included both laboratory and pilot plant testwork and a feasibility study was completed.

AMAX drilled eight metallurgical holes through soft and into hard ore. These were split into the "soft" and "hard" domains and tested individually as well as composited. The metallurgical holes were all within the pit outline and were spread fairly evenly across the area. AMAX also sunk a decline into the ore body and processed over 7,000 tonnes of ore through a pilot plant.

The pilot plant campaign achieved recoveries for $WO_3$ and Sn of approximately 64% and 66% respectively, at a head grade of approximately 0.19% $WO_3$ and produced tungsten concentrate grading 65% $WO_3$ using only gravity and magnetic separation techniques.

It was concluded that there were two primary mineralogical domains, classified as Soft Granite and Hard Granite respectively, and that separate saleable tungsten and tin concentrates could be produced using conventional gravity processing. The study concluded that $WO_3$ recovery for soft and hard ore was 58% and 65% respectively to a 65% $WO_3$ concentrate. Equivalent tin recovery was 68% and 64% respectively to a 25% Sn concentrate.

The Soft Granite tended to be near-surface, clayey and kaolinised material whereas the Hard Granite was more competent ore from deeper sections of the deposit.

Wolframite, $(Fe,Mn)WO_4$ and cassiterite, $SnO_2$ are the two minerals of economic importance at Hemerdon.

### 7.2.2 Wolf Minerals Feasibility Study Testwork

Wolf Minerals prepared a Definitive Feasibility Study Report (DFS) in May 2011 and engaged GR Engineering Services (GRES) to undertake metallurgical studies and process design, all of which was supervised by Coffey Mining.

Wolf Minerals drilled a further six diamond drill holes in 2008. Initial metallurgical testwork by Ausenco and GRES failed to replicate the AMAX results. Although Ausenco largely used the old AMAX drill core for gravity work, the poorer results were attributed to both Ausenco and GRES using a significantly finer desliming cut size than the AMAX work and also the use of non-optimal gravity test equipment.

As a result of an overall review of the testwork conducted to-date, a further testwork programme was developed by Coffey and GRES, which was completed at Ammtec laboratories in Perth, Australia, referred to as the "Post Review Testwork (PRT)" programme. This programme utilised four of the remaining 2008 drill hole samples, a Soft Granite and a

Hard Granite composite sample being produced, to validate, confirm and complete the testwork programme undertaken by AMAX, as well as the appropriate components of the GRES programme.

The results of the PRT work confirmed and replicated the tungsten recoveries achieved by AMAX with tungsten recovery of 58% from Soft Granite and 66% from Hard Granite at concentrate grades of 62% $WO_3$ and 67% $WO_3$ respectively. Tin recovery from Soft and Hard Granite was 65% and 55% respectively with concentrate grades of 39% Sn and 21% Sn.

### 7.2.3 Reduction Roasting

The AMAX pilot plant flowsheet did not include reduction roasting or reverse flotation.

However, tighter environmental regulations on arsenic levels make arsenic flotation mandatory, whilst the reduction (magnetising) roast stage was included to ensure that the target concentrate grade of 65% $WO_3$ is consistently achieved. This is because, in certain areas of the deposit, variances in hematite mineralogy may cause magnetic separation problems and use of a reduction roast to convert the variable types of hematite to magnetite allows the magnetite to be removed using LIMS.

Therefore, subsequent to the DFS, additional testwork was performed by Independent Metallurgical Operations Pty Ltd. (IMO) in Perth, Australia under GRES supervision. This work confirmed design parameters for the reduction kiln and the whole concentrate upgrade circuit, including further studies on tin concentrate optimisation.

## 7.3 PLANT DESIGN

The plant design incorporates three stages of comminution, gravity pre-concentration with fine and coarse circuits, and final concentrate upgrading to produce separate tungsten and tin concentrates.

After initial crushing, scrubbing and screening to reduce run of mine ore to minus 9 mm, the ore is then split into two streams. A deslimed fines stream at minus 0.5 mm + 63 µm is upgraded using conventional spirals and shaking tables to produce a fine concentrate whilst a coarse stream at minus 9 mm + 0.5 mm is upgraded using three stages of dense medium separation (DMS) with regrinding and screening for production of a coarse concentrate. The original AMAX flowsheet proposed only a single primary DMS stage followed by jigs for the coarse stream.

The concentrate upgrade circuit treats the combined fine and coarse concentrates and includes regrinding, reverse flotation, drying and reduction roasting, low intensity magnetic separation (LIMS) to remove the converted magnetite, high intensity magnetic separation (HIMS) to produce a blended final tungsten concentrate and a tin upgrade circuit for the non-magnetic fraction (tabling and drying) to produce a final tin concentrate. After LIMS, the product is screened at 150 µm into coarse and fine streams which are processed separately in the HIMS circuit.

Three final tailings streams are generated viz. the hydrocyclone deslime overflow, the spiral tails and the primary DMS tails. The primary DMS tails are transported to the Waste Stockpile whilst the hydrocyclone deslime overflow and spiral tails are pumped to the

dedicated Mining Waste Facility (MWF). This will have a total design capacity of 16.8 Mt of fine tailings for a life of up to 12 years at design production rates.

Water for the processing plant will be sourced from four areas in order of preference, namely recovered water from the MWF, pit water, the run-off collection and storage ponds and the Loughter Mill pumping station at Tory Brook. Additional water is available as required at cost from South West Water. The main surface water catchment and storage ponds are the Tory Pond and two Smallhanger ponds. Water from Loughter Mill pump station is pumped as required to the Tory Pond via a 1.5 mile long pipeline. Each catchment and storage pond has a dedicated pump station for pumping process water to the plant.

Design plant throughput is 3 Mt/a of run of mine ore and is based on five and half days' operation each week to conform to the approved planning permission aimed at minimising the impact of noise on the local community. Primary crushing is not permitted between 18:00 hours on Saturdays and 06:00 hours on Mondays and 22:00 hours on the day preceding a public holiday and the next ordinary day. However, Wolf Minerals is currently trialling a seven-day operating schedule which, if successful, would increase annual throughput and concentrate production and allow for more efficient plant operation (less disruption and metal loss during stop/start operations).

## 7.4 PRODUCTION SCHEDULE

Table 7.1 summarises the production schedule for the plant over the life of mine (LOM).

**Table 7.1: Summary of Production Schedule**

| Parameter | Units | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tonnage Processed | t | 3,119,220 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 2,938,716 | 576,203 | **33,634,139** |
| Grade Processed $WO_3$ | $WO_3$ % | 0.22 | 0.20 | 0.18 | 0.17 | 0.17 | 0.17 | 0.18 | 0.19 | 0.19 | 0.19 | 0.17 | 0.20 | **0.19** |
| Contained Tungsten $WO_3$ | mtu | 402,004 | 365,837 | 349,448 | 331,894 | 324,666 | 331,180 | 348,172 | 373,805 | 372,247 | 364,697 | 337,785 | 75,695 | **3,977,431** |
| Grade Processed Sn | Sn % | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.02% | 0.02% | 0.02% | 0.02% | 0.02% | 0.02% | **0.03** |
| Contained Tin Metal | t | 628 | 570 | 494 | 503 | 491 | 455 | 403 | 343 | 308 | 313 | 319 | 56 | **4,883** |

The following comments are pertinent:

1. A total of 33.6 million tonnes of ore will be processed over the remaining mine life at average head grades of 0.19% $WO_3$ and 0.03% Sn. These numbers agree with the stated JORC Code ore reserves. The reserves were significantly increased by Wolf Minerals in 2015 due to re-optimisation of the pit using steeper pit slopes following geotechnical investigations. This has resulted in increased production and mine life.
2. The Soft Ore is processed only during the first seven years of operation.
3. The latest Model reflects the current ramp up schedule. Consistent design throughput of 250,000 t/month is scheduled for mid-2016 onwards.
4. The recoveries and concentrate grades used in the Model are generally in agreement with the GRES design numbers, although tungsten recovery for soft granite is lower to reflect the current ramp up period. Micon has reviewed extensive additional testwork undertaken by Wolf Minerals and concluded that a 40% Sn concentrate grade should be achievable.

### 7.4.1 Capital Costs

The original capital cost for the plant included under the fixed cost EPC contract with GRES was £75.5 million. However, the numbers used in the latest Model reflect actual costs incurred together with the forecast for the remaining expenditures. The total Estimate At Completion capital cost and GRES components of this cost have been regularly reviewed by Micon in its role as Independent Engineers for the Senior Lenders and are therefore considered reasonable.

### 7.4.2 Operating Costs

The total process operating cost used in the Model for the LOM is £4.07 per tonne ROM input and includes both fixed and variable cost components.

Micon considers the revised plant operating costs as used in the Model to be reasonable.

### 7.4.3 Off-Take Agreements

Off-Take Agreements are signed with Austrian-based Wolfram Bergbau und Hutten AG (WBH) and US-based Global Tungsten & Powders Corp (GTP). Under the terms agreed, Wolf Minerals will supply 80% of the Hemerdon Project's annual $WO_3$ concentrate output for 5 years.

An Off-Take Agreement for tin concentrates is signed with Traxys for 100% of the Hemerdon Project's output.

## 7.5 RISKS AND OPPORTUNITIES

The plant is fully operational under Wolf Minerals' ownership and has demonstrated that saleable tungsten concentrates can be produced and sold.

The key process requirement is for stable plant operation to allow a steady ramp up of throughput to design and full evaluation of the metallurgical performance. Production has

been assisted by the 7-day trial, although overall plant operation is still to reach design throughput.

Metallurgical priority is on increasing the overall tungsten recovery in ramp up, with input from GRES and other independent consultants, whilst also minimising the impact of any deleterious elements.

Once the plant is performing to design, there is opportunity to reduce tungsten slimes losses using specialised gravity separation equipment and should be investigated via metallurgical testwork in due course.

There may be a risk of increases in operating cost depending on any remedial measures identified during ramp up that may be required to improve current plant performance.
Wolf Minerals has the benefit of significant GRES input and from other independent consultants as required to assist with ramp up of the plant. Micon considers that, at this stage, there are no apparent fatal flaws in the process design, but does not discount that some process modifications may be required pending performance reviews in ramp up, which could impact production in the early stages of 2016.

# 8.0 ENVIRONMENTAL CONSIDERATIONS

## 8.1 ENVIRONMENTAL AND SOCIO-ECONOMIC CONTEXT

The Hemerdon project is located in a largely rural setting close to the southern boundary of the Dartmoor National Park; the traditional land-use is agriculture with a pattern of small pastures separated by high hedgerows giving the area a distinctive landscape. Some aspects of this traditional land-use remain although the area has seen considerable development with extensive china clay workings to the north. The port city and naval base of Plymouth lies seven miles to the south-west.

Much of the area of the current land occupied by the project was essentially a brownfield site prior to the recent construction. The Hemerdon tungsten deposit had been worked twice historically and mine workings, buildings and associated infrastructure, predominantly from the 1940s, remained together with some pilot facilities developed in the 1970s and 1980s. Historically, there were also extensive tin workings in the area (mostly dating from the 18$^{th}$ century) and some evidence of these workings remains, mostly in the form of old shafts and disturbed ground.

Although primarily a rural location, agriculture is only a part of the local economy; mining (principally china clay and ball clay) has also played a major role for many years, although employment levels are declining. Being close to the National Park, tourism makes a significant contribution to the regional economy with the nearby city of Plymouth exerting a strong financial influence on the region. The gradual decline in the importance of agriculture and clay mining to the economy, combined with more recent reductions in the employment at the nearby Devonport naval base, have resulted in a number of initiatives to broaden and develop the economic basis of the region. Development of tungsten mining is one of these initiatives and Micon advises that, as far as can be ascertained, there has been a significant degree of support for the project during its construction and early operation (arising from the predicted economic benefits), although as with all locations of this type, support is not universal.

Prior to construction, extensive baseline surveys were undertaken, the key findings of which were that:

- Air quality was generally good;
- Noise and vibration levels were low;
- Surface watercourses were being adversely impacted by elevated suspended solids in water draining from the china clay workings;
- Locally elevated concentrations of some trace elements in soils, groundwaters and sediments, notably arsenic, are associated with the natural geochemical footprint of the area enhanced by the consequences of historic metal mining;
- The ecological status of the site was moderate: plant, butterfly, dragonfly, reptile, bird and mammal species are typical of the area; some protected species were present and special measures were needed to minimise the impact on these species; and,
- Some items of archaeological interest were present and extensive archaeological investigation was required prior to construction.

## 8.2 PERMITTING

### 8.2.1 Planning Permissions

The primary control over the development of mineral workings in England is exercised by the Mineral Planning Authority (in this instance Devon County Council) through granting of Planning Permission. A number of other organisations and interested parties are consultees during this process. Following a lengthy submission process culminating in a public inquiry, Planning Permission (N$^{o}$9/42/49/0542/85/3) was granted in 1986 to the previous owner of the project (*AMAX Exploration of U.K. Inc.*) but the project never progressed to construction due to the metal prices prevailing at that time.

In consultation with the planning authorities, Wolf Minerals accepted a voluntary updating of the conditions associated with the original Planning Permission to reflect changes in environmental standards and good practice, which was formalised by the Mineral Planning Authority issuing a Modification Order in January 2011. This Modification Order combined with the 1986 Planning Permission remains the principal regulatory control on the current operations, although Wolf Minerals has subsequently lodged a number of applications to modify key conditions attached to the original Planning Permission. These have included:

- A Modification Order for the inclusion of a Reduction Kiln that was not part of the project as described in the original Planning Permission; this was approved in March 2014;
- Changes to the dimensions of the Process Plant, which were approved through Article 30 (Determination of Conditions) Planning Permissions in April 2014;
- An agreement to vary a condition of the Planning Permission to allow operation of the Primary Crusher (and therefore the whole process plant) on a 7-day a week basis for a six month trial period was issued in March 2015; and,
- An application to extend the life of the mine beyond the 2021 deadline currently stated in the original Planning Permission was lodged in December 2015 and is currently awaiting determination.

In addition to the main Planning Permission itself and in accordance with normal practice, Wolf Minerals entered into a legally binding agreement (known as a "Section 52 agreement"), which required the developer (Wolf Minerals) and other parties (such as landowners) to undertake a series of actions prior to the development proceeding. This agreement covered issues such as property purchase, development of site restoration plans, tree planting schemes, transport management etc.

Subsequent to the Planning Permission and Section 52 agreement, Wolf Minerals has acquired a series of "secondary" permits covering issues such as mine waste management, water abstraction, impoundment and discharge, closure of rights of way, disturbance of protected animal and plant species etc. These are issued by various governmental agencies, principally the Environment Agency but also including agencies such as Natural England. These secondary permits are aimed at ensuring detailed aspects of the operation comply with specific regulatory requirements.

The key permits include:

### 8.2.2 Mining Waste Facility Permit

This permit from the Environment Agency is required under the conditions of the E.U. Mining Waste Directive and involves the classification of the facility according to a number of risk-based criteria and development and implementation of a number of management practices within the framework of an agreed Waste Management Plan. Permit N$^{o}$. EPR/FB3639RK was issued in December 2013.

### 8.2.3 Surface Water Abstraction and Impoundment Licences and Discharge Consents

Wolf Minerals had received the necessary consents from the Environment Agency for abstraction from surface waters and discharge into surface waters by December 2013.

### 8.2.4 Land Drainage Consents (sometimes known as Flood Defence Consents)

Land Drainage Consents are required from the Environment Agency before any work can be carried out "in, over, under or adjacent to" a watercourse. A series of such consents were required and were received in 2014.

### 8.2.5 Protected Species

A number of different licences from Natural England are required for works that disturb protected species such as bats, badgers, reptiles etc. The licences required were all received by Wolf Minerals during 2013. The necessary works to relocate protected species have now been undertaken.

### 8.2.6 Rights-of-Way

A number of Rights-of-Way (public footpaths and bridleways) originally crossed the project site. The closure of these Rights-of-Way (and the provision of alternative routes that by-pass the site) required approval from the planning authority. All "Stopping up" and Diversion orders were received prior to the required works being undertaken. These works are now complete.

### 8.2.7 Installation Permit for the Reduction Kiln

An "Installation Permit" was required for the installation of the reduction kiln; this was received in July 2014.

All licences, permits, consents, orders and other key planning documents are held in a dedicated Environmental Approvals Register as part of Wolf Minerals' certified ISO14001 Environmental Management System.

## 8.3 ENVIRONMENTAL MANAGEMENT

Environmental management during both construction and operations has been undertaken within a formalised management system framework. The Environmental Management System was certified to ISO14001:2004 on 21$^{st}$ August 2015.

Within the Environmental Management System, a number of key environmental impacts and risks associated with construction and operation of the Hemerdon project are acknowledged and appropriate mitigation, management and monitoring procedures have been developed. These key impacts and risks include:

### 8.3.1 Mine Waste Management

The waste management scheme encompasses the mine waste and the two tailings streams, which include the relatively coarse DMS rejects and fine tailings. The DMS rejects are free draining and are being disposed of with mine waste in the waste embankment while the fine tailings are being stored in an engineered fully-lined mining waste facility (MWF) contained in and surrounded by the mine waste embankment. The combined structure is termed an integrated waste landform (IWL).

The design, construction and operation of the facility are tightly controlled under existing E.U. and U.K. regulations. The facility is classified as a Category A facility (the highest risk category) under these regulations. The design has received "pre-construction approval" by an independent competent person in accordance with the requirements of U.K. legislation. Each stage in the construction of the facility is independently audited and subject to approval by the Environment Agency.

A number of groundwater monitoring wells has been installed around the facility. Monitoring of these wells has identified elevated concentrations of certain trace elements, including arsenic, associated with the natural geochemical footprint of the area but has not detected any contamination arising from the current operations.

### 8.3.2 Impacts on Water Resources

Run-off from undisturbed ground on the project site drains directly into one of two streams running adjacent to the site. Run-off from disturbed ground and seepage into the open-pit, which may contain elevated concentrations of suspended solids, oils etc. is being collected in two sedimentation ponds prior to discharge; the ponds act to reduce suspended solids (and the larger of the two ponds forms one source of process water supply). Nevertheless, during the period of construction and early operations, a number of high rainfall events have resulted in the release of water containing elevated concentrations of suspended solids in excess of those permitted. Accordingly, the design, management and maintenance of the systems for control of surface run-off are regularly reviewed.

Dewatering as the open-pit deepens will create a localised lowering of the water table; the impact on local springs and wells (some of which are used for stock watering and irrigation) is not predicted to be significant, although some uncertainties are noted in the groundwater modelling.

A water treatment plant has been incorporated in the design to reduce concentrations of arsenic in process water that might arise during the processing of ore, some of which is known to contain elevated concentrations of arsenic.

### 8.3.3 Noise, Vibration and Dust

The control of noise, vibration and dust around mineral workings is considered a key concern; this is reflected in the tight noise limits imposed through planning conditions. In accordance with established U.K. practice, these limits are measured at noise-sensitive locations (in this case the nearest residential properties). In addition, planning conditions also require a number of specific mitigation measures that impose significant constraints on the operation, including limitations on times of plant operation and waste rock dumping.

Low Frequency Noise (LFN) has been detected emanating from the plant during commissioning. Wolf Minerals has identified the sources of the LFN and, in conjunction with GRES, is developing measures to reduce the noise at source.

### 8.3.4 Traffic and Impacts on the Local Road Network

Concerns over traffic volumes on local roads have long been a concern of residents and local authorities alike; a significant volume of heavy vehicle movements is already generated by the china clay industry. The Hemerdon project has again seen these concerns raised in discussions with local authorities and residents in the context of the new link road, which has been financed by Wolf Minerals and accepted by the Devon County Council.

### 8.3.5 Closure and Rehabilitation

Wolf Minerals has made separate provision for the costs of eventual closure in the form of a bond that has been agreed with various parties (landowners and regulatory authorities) as part of the permitting process. A bond for the full predicted cost of eventual closure, £14,046,955, has been in place since the start of construction. A separate bond for the value of £1,624,760 has also been provided as a condition of the MWF Permit; this bond covers liability for items such as post-closure monitoring of the waste facility.

## 8.4 FINANCIAL IMPLICATIONS

### 8.4.1 Capital Costs

The Model includes specific provision for the following environment-related costs that have been incurred between January 2015 and the start of operations:

- *Licence to operate/Environment:* £420 thousand; and,
- *Archaeological Clearance Programme:* £364 thousand.

These categories included the costs of all the required permitting initiatives, re-location of protected species, archaeological investigations, removal of historic contamination, development of Environmental and Safety Management Systems and ongoing environmental monitoring prior to the start of operations.

Micon has reviewed both the historic expenditure and the planned future expenditure on these items and can confirm that all relevant items have been accounted for. Micon notes, however, that there may be a risk of additional costs incurred in complying with environmental obligations should any remedial actions arise during the plant ramp up period.

### 8.4.2 Operating Costs

The Model includes specific provision for the following total environmental management costs that will be incurred during operations:

- 2016: £696 thousand per annum (£68,000/month); and,
- 2017 onwards: £582 thousand reducing progressively to £518 thousand by 2019.

Additional funding for community engagement and planning issues (some of which relate to environmental considerations) is identified separately within the Model.

The reduction in operating costs occurring in mid-2016 onwards is a consequence of the completion of one-off activities associated with the early mine life (mostly fulfilment of actions required by permit conditions). Whilst Micon generally supports the principal that environmental management costs will decrease with completion of one-off activities associated with the early mine life, Micon also advises that ongoing environmental resourcing should be monitored to ensure obligations continue to be met.

### 8.4.3 Closure Costs

Wolf Minerals has made separate provision for the costs of eventual closure in the form of a bond that has been agreed with various parties (landowners and regulatory authorities) as part of the permitting process. A bond for the full predicted cost of eventual closure, £14,046,955, has been in place since the start of construction. A separate bond for the value of £1,624,760 has also been provided as a condition of the MWF Permit; this bond covers liability for items such as post-closure monitoring of the waste facility.

Micon has reviewed the technical and financial aspects of the closure planning undertaken by Wolf Minerals and can confirm that all relevant items have been accounted for. Micon does note, however, that the cost estimate for the demolition of the process plant and associated infrastructure has been discounted to allow for the re-sale of scrap materials. Whilst this appears to have been accepted by the regulatory authorities and landowners, Micon notes that this is not compatible with current best practice.

# 9.0 FINANCIAL

## 9.1 CORPORATE

### 9.1.1 Wolf Minerals Group Corporate

The Wolf Minerals Consolidated section of the Model incorporates all of the Wolf Minerals UK costs from 1st January to 30th June 2015. From 1st July 2015 to the current end of the life of the Drakelands mine in May 2027, the group corporate costs have been included under the Commercial and Administration budget. All of the costs have been reported in GB pounds sterling.

**Micon Comment**

Micon has reviewed the above costs and considers the estimate to be realistic.

### 9.1.2 Corporate Assumptions

The corporate financial assumptions for the discount factor and US Dollar and British Pound Sterling exchange rates for the Model have not been reviewed by Micon as this is beyond the scope of this Report.

## 9.2 ECONOMIC ASSESSMENT

### 9.2.1 Project Assumptions

The scheduling assumptions have been summarised in Table 9.1. The scheduling assumptions reflect the current status of the project scheduling, but may be altered due to the current seven day per week production trial. These will be dependent on the granting of the permission at the end of the trial period.

**Table 9.1: Scheduling Assumptions**

| Category | Date |
|---|---|
| Plant Construction Commencement | February 2014 |
| Construction Period Prior to Mining (changed 1 month) | 18 months |
| Mine Establishment | May 2014 |
| Mining Commencement | December 2014 |
| Phase 1 Length | 8 months |
| Phase 1 End Date | 31st March 2016 |
| Months Mining Before Processing | 11 months |
| Processing Commencement | June 2015 |
| Mining End Date | 31st May 2027 |
| Processing End Date | 31st May 2027 |
| Processing Year End Date | 31st December 2027 |

**Micon Comment**

Micon has reviewed the scheduling assumptions and believes that they are appropriate based on current knowledge. The commodity pricing and realisation cost assumptions have not been reviewed by Micon as this is beyond the scope of this Report.

### 9.2.2 Capital Costs

The Model includes £7.7 million of capital costs over the remaining LOM.

The Lee Moor Road Diversion Contract has been awarded to C A Blackwell (Contracts) Ltd and the Proposed Contract Terms are "JCT SBC/Q2011 Standard Building Contract With Quantities 2011." This is a recognised Industry form of Contract produced by the Joint Contracts Tribunal. It has a good track record and is suitable for the Lee Moor Road Diversion Contract. Craddy Pitchers, a Civil Engineering Consultancy founded in 1977 and now based in Bristol and Exeter, has been appointed by Wolf to manage the Lee Moor Road Diversion Contract. The total estimated cost has been included in the capital costs. Micon is not aware of any major issues which are likely to substantially change the final contract price.

**Micon Comment**

Micon has reviewed the capital costs and considers the estimate to be realistic. Micon notes that there is a cost overrun account of £10.5 million available as well.

### 9.2.3 Administration Costs

Administration costs include all other site operating costs and group corporate costs. The average annual administration costs over the LOM are £5.8 million.

**Micon Comment**

Micon believes that the administration costs are reasonable.

### 9.2.4 Royalties and Tax

Royalties and taxes are summarised in Table 9.2.

**Micon comment**

Micon believes that the royalty, tax and depreciation parameters are reasonable.

**Table 9.2: Royalties and Tax**

| Parameter | Unit | Value |
|---|---|---|
| **Royalty** | | |
| Metal Royalty | % | 2 |
| RCF Royalty | % | 2 |
| Withholding Tax on RCF Royalty Payments | % | 20 |
| **Company Tax** | | |
| 31 March 2012 | % | 24 |
| 31 March 2013 | % | 23 |
| 31 March 2014 | % | 21 |
| Opening Tax Losses | GBP | - |
| Opening Depreciable Capital | GBP | - |
| **Depreciation Rates** | | |
| Mineral Exploration and Access | % | 25 |
| Development Capital | % | 18 |
| Deferment of Interest for Tax Purposes | Date | June 15 |

## 9.3 MARKET VALUATION

### 9.3.1 Assessment of Optimised Pit

A pit optimisation was performed by Wolf Minerals to assess the "potentially minable" resource beyond the current pit design assuming that the restrictions on the pit surface circumference are lifted. The unconstrained pit optimisation produced an ultimate pit shell with an 18-year mine life totalling 50.4. Mt at 0.15% W and 0.02% Sn and extend the current mine life by a further five years.

BDO has valued the material inside the 18-year pit, based on an estimate of the recoverable Measured and Indicated mineral resources provided by Wolf Minerals. The extended mining and processing schedule is shown below in Table 9.3.

**Table 9.3: Optimised Pit Schedule**

| Year | Unit | Year 1+ | Year 2+ | Year 3+ | Year 4+ | Year 5+ | Total |
|---|---|---|---|---|---|---|---|
| **Mining** | | | | | | | |
| Waste | t | 4,800,000 | 4,800,000 | 4,800,000 | 4,000,000 | 2,550,195 | **20,950,195** |
| Measured and Indicated Resources | t | 3,000,000 | 3,000,000 | 3,000,000 | 2,500,000 | 1,593,872 | **13,093,872** |
| Tungsten Grade | % | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.120 |
| Tungsten Metal | t | 3,600 | 3,600 | 3,600 | 3,000 | 1,913 | 15,713 |
| Tin Grade | % | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 |
| Tin Metal | t | 600 | 600 | 600 | 500 | 319 | 2,619 |
| **Processing** | | | | | | | |
| Ore Processed | t | 3,000,000 | 3,000,000 | 3,000,000 | 2,500,000 | 1,593,872 | 13,093,872 |
| Grade Processed WO3 | %WO3 | 0.151 | 0.151 | 0.151 | 0.151 | 0.151 | 0.151 |
| **Contained Tungsten WO3** | **mtu** | 298,260 | 298,260 | 298,260 | 248,550 | 158,463 | **1,301,792** |
| Tin Grade Processed | %Sn | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 |
| **Contained Tin Metal** | **t** | 331 | 331 | 331 | 276 | 176 | 1,443 |

Micon has provided an independent opinion of the market value of the Measured, Indicated and Inferred mineral resources outside of the 18-year optimised pit.

### 9.3.2 Micon In-Situ Valuation

It is generally accepted in the exploration and mining industry that the valuation of exploration properties and mineral resources is a subjective process and is greatly influenced by the prevailing market conditions and to some extent the experience and qualifications of the person conducting the work. The observations, comments and results of technical analyses presented in this Report represent Micon's opinions as of the date of this Report. Micon has visited the property on numerous occasions and is familiar with the region. Micon are confident that the opinions presented here are reasonable and that the overall valuation is a fair reflection of the value of the property in January 2016 based on the information available at the time.

In order to reach a fair market value Micon has selected to use an adapted Market Approach and an Appraised Value Method, or Cost Approach. The Appraised Value Method is based upon the potential for the existence of an economic ore body. This potential is appraised as the cost of exploration to test the mineral potential by applying the Multiple of Exploration Expenditure (MEE) method. The adapted Market Approach incorporates a net In-Situ Value method that ascribes a somewhat arbitrary value to the "mtu in the ground" (in this case) based on classification level of the mineral resource.

Micon has used the Cash Flow model for the Measured and Indicated mineral resources between the current Phase 2 pit design and the 18-year optimised pit to obtain a preferred value of £43.4/mtu $WO_3$ for the resources outside of the 18-year pit. Micon has estimated that the recoverable $WO_3$ in the Measured and Indicated mineral resources outside of the 18-year pit based on the Wolf Minerals Mineral Resources update 25th March 2015 will be 0.61 M mtu. The parameters used are presented in Table 9.4.

**Table 9.4: Parameters for MTU Unit Value Outside of the 18-Year Pit**

| Parameter | Unit | Value |
|---|---|---|
| Waste | Mt | 21.0 |
| Measured & Indicated Resources | Mt | 13.1 |
| W Grade | %W | 0.12 |
| In-situ Tungsten | M mtu | 2.0 |
| Tungsten Recovery | % | 65.7 |
| Tungsten Concentrate Grade | % | 67.2 |
| Recovered Tungsten | M mtu | 1.3 |
| Tungsten Price (80% of $400) | US $/mtu | 320 |
| Exchange Rate | US $/£ | 1.6 |
| Transport and Royalties | Percent of Revenue | 4 |
| Capital Costs | Percent of Revenue | 5 |
| Mining Costs | £/t Total Material | 2.02 |
| Processing Costs | £/t Processed | 4.07 |
| G&A | £/t Processed | 1.99 |
| Tax | % | 20 |
| Discount Factor | % | 12 |
| **Unit Value per mtu (in-situ)** | **£/mtu** | **43.4** |

The long term tungsten price 80% of US $400/mtu from the Model has been utilised for this assessment. At US $320/mtu and a discount rate of 12%, a unit value of £43.4 per mtu was calculated for the Measured and Indicated Resources outside of the 18-year pit.

Micon has assigned a factor of likelihood of the material being extracted to indicate the confidence in that material being mined. The likelihood of extracting all of the Measured and Indicated mineral resources outside of the pit design is 25%. Using these parameters a low value of £5.0 million and high value of £7.8 million was estimated based on variation of the discount factor with a preferred value of £6.6 million, shown in Table 9.5.

**Table 9.5: In-Situ Valuation of Measured and Indicated Mineral Resources Outside of the 18-Year Pit**

| Category | M + I Tonnage (Mt) | Recoverable (M mtu) | Value (£/mtu) | Likelihood of Extraction (%) | Value | | |
|---|---|---|---|---|---|---|---|
| | | | | | Low (£ million) | Preferred (£ million) | High (£ million) |
| Outside 18-Year Pit | 8.2 | 0.61 | 43.4 | 25 | 5.0 | 6.6 | 7.8 |

Micon has run a valuation on the Measured, Indicated and Inferred mineral resources outside of the 18-year pit using the Multiple of Exploration Expenditure method. Whilst it would be reasonable to expect that the majority of Inferred mineral resources would be upgraded to Indicated mineral resources with continued exploration, due to the uncertainty of Inferred mineral resources, it should not be assumed that such upgrading will always occur. To date

13,252 m of exploration drilling have been performed to obtain 35.7 Mt of ore reserves for the current pit design. Micon has assigned a cost of exploration drilling at £350/m for Measured and Indicated mineral resources and £175/m for Inferred mineral resources. This equates to £0.130/t for the Measured and Indicated mineral resources and £0.065/t for the Inferred mineral resources, shown in Table 9.6.

**Table 9.6: MEE Valuation of the Resources Outside of the 18-Year Pit**

| Category | Tonnage (Mt) | Value (£/t) | Value (£ million) |
|---|---|---|---|
| Measured + Indicated Mineral Resources | 8.2 | £0.130 | 1.1 |
| Inferred Mineral Resources | 81.9 | £0.065 | 5.3 |
| Combined | 94.8 | - | 6.4 |

Micon's valuation of the Hemerdon Project mineral resources that occur outside of Wolf Minerals' extended 18-year optimised pit, which are not included in the Model is presented in Table 9.7.

**Table 9.7: Summary of Micon Independent Valuation**

| Method | Mineral Resource | | Value (£ million) | | |
|---|---|---|---|---|---|
| | M + I (Mt) | Inf (Mt) | Low | Preferred | High |
| Market Approach (In-Situ Value) | 8.2 | - | 5.0 | 6.6 | 7.8 |
| Appraised Value (MEE) | 8.2 | - | - | 1.1 | - |
| | - | 81.9 | - | 5.3 | - |

Micon's opinion of the fair market value of this asset of the Hemerdon Project therefore lies in the range of £10.3 million and £13.1 million, with a preferred value of £11.9 million.

# 10.0 INTERPRETATION AND CONCLUSIONS

Micon has reviewed the technical assumptions and parameters used in the Model. This includes the resources and reserves, mining physicals, processing assumptions, environmental requirements, operating costs and capital expenditure.

## 10.1 MINERAL RESOURCES AND ORE RESERVES

Wolf Minerals appointed SRK Consulting to estimate Hemerdon mineral resources and SRK has utilised state-of-the-art geostatistical methods in developing the current mineral resource model. Micon has reviewed the methodologies employed and has confirmed that the mineral resources estimated for the Hemerdon Granite are probably conservative, but appropriate considering the data available. It is Micon's opinion that the SRK 25 m by 25 m by 10 m mineral resource model, with tungsten grade interpolated using ordinary kriging is probably subject over-smoothing of tungsten grades, but globally it is likely to be accurate within the confidence limits accepted for Measured and Indicated mineral resource estimates. There is potential to improve mill feed grades by rigorous application of a comprehensive grade control programme.

Micon has discussed the importance of grade control with Wolf Minerals management, particularly with respect to the potential to realise higher feed grade than planned and the transition from soft mineralisation to hard. Wolf Minerals has developed a programme of closely-spaced reverse circulation drilling to facilitate grade selection and to distinguish hard and soft ore types. The grade control drilling has been supplemented with horizontal channel sampling of bench faces. Together these sampling methods indicate that the ore mined to date is of slightly higher grade than expected from the SRK mineral resource model. This positive trend has been consistent to date but the improvement in grade cannot be confirmed until the plant achieves a steady state of production and a reliable metallurgical balance can be developed.

Due to the refractory nature of the killas mineralisation and the fact that at present there appears to be no prospect of economic extraction of tungsten and tin mineralisation, this material has not been reported as a mineral resource. The killas therefore exists as tungsten-tin mineralisation that may be converted to a resource in future if appropriate tungsten and tin recovery flowsheets can be developed.

The Hemerdon ore reserves are defined at a cut-off grade of 0.05% W or 0.063% $WO_3$, excluding tin credits. Tungsten concentrates are normally sold in metric tonne units (mtu) comprising 10 kg of $WO_3$. Wolf Minerals has assumed that the price received for tungsten in concentrates will be at a discount to the prevailing APT price. The ore reserves in the March 2015 estimate were defined using an APT price of US $300/mtu.

Hemerdon mineral resources were prepared and first disclosed under the JORC Code (2004). The mineral resource estimate was updated in March 2015 in accordance with the guidelines of the JORC Code (2012), which came into effect in December 2013.

## 10.2 MINING

Micon believes that the arrangements for mining are reasonable and production rates can be achieved on an on-going basis once initial production rates have been achieved. Wolf Minerals has applied for an extension of the seven days per week production trial so that an assessment can be made whilst operating during the drier months of the year.

Micon has reviewed the mining assumptions and finds the Dewatering Allowance and Rehandling Costs to be appropriate. The Fixed Monthly Management Charge for Phase 1 and 2 in the Model differs to the Blackwell Price Schedules. Micon understands that Wolf Minerals and Blackwell have agreed to omit the Infrastructure Management (septic) item from the Monthly Management Fee schedule for Phase 2. Micon further understands that the agreed prices for Phase 1 have been updated in the Model. Micon has not seen any document confirming the adjustment.

The reduction in mining rates applicable to the rise and fall adjustment clause have not been allowed for or projected in the Model.

Micon has reviewed the operating costs and consider them to be reasonable. Micon has noted that Phase 1 has been extended to the end of March 2016 and the Phase 2 rates are scheduled to commence on the 1st April 2016.

Prior to 31st December 2015, all ground breaking activity has been performed by ripping and a flat rate of £1.25 per bcm has been applied. From January 2016, drilling and blasting will commence; the Model costs are based on the maximum Phase 2 drill and blast rates from the Mining Services Contract.

Micon has examined the mining sustaining capital costs and considers them to be appropriate.

Micon considers the mining to be robust, but recommends that the Model should be updated to reflect the settlement of the Rise and Fall component of the Mining Services Contract.

## 10.3 MINERAL PROCESSING

The plant is fully operational under Wolf Minerals' ownership and has demonstrated that saleable tungsten concentrates can be produced and sold.

The key process requirement is for stable plant operation to allow a steady ramp up of throughput to design and full evaluation of the metallurgical performance. Metallurgical priority is on increasing the tungsten recovery in ramp up whilst also minimising the impact of any deleterious elements.

There may be a risk of increases in operating cost depending on any remedial measures identified during ramp up that may be required to improve current plant performance.

Wolf Minerals has the benefit of significant GRES input and from other independent consultants as required to assist with ramp up of the plant. Micon considers that, at this stage, there are no apparent fatal flaws in the process design, but does not discount that some process modifications may be required pending performance reviews in ramp up, which could impact production in the early stages of 2016.

## 10.4 ENVIRONMENTAL CONSIDERATIONS

The primary control over the development of mineral workings in England is exercised by the Mineral Planning Authority through granting of Planning Permission. Planning Permission was granted in 1986 to the previous owner of the project. Wolf Minerals accepted a voluntary updating of the conditions associated with the original Planning Permission in January 2011 to reflect changes in environmental standards and good practice. Wolf Minerals has subsequently incorporated some design elements and operating procedures that differ from those approved within the original Planning Permission and permissions to revise some aspects of the original project design have been received; other proposed changes are the subject of recent submissions that are awaiting determination.

Subsequent to the Planning Permission, Wolf Minerals has acquired a series of "secondary" permits covering issues such as mine waste management, water abstraction and discharge, disturbance of protected animal and plant species etc. These secondary permits are aimed at ensuring detailed aspects of the operation comply with specific regulatory requirements.

Micon has identified a number of key environmental impacts and risks associated with construction and operation of the Hemerdon project, all of which have been, or are being, addressed by Wolf Minerals in accordance with good practice and the requirements of the U.K. regulatory authorities. All such impacts and risks are being managed under a certified ISO14001 Environmental Management System.

The Model includes specific provision for environment-related capital costs that have been incurred between January 2015 and the start of operations. These costs include of all the required permitting initiatives, re-location of protected species, archaeological investigations, removal of historic contamination, development of Environmental and Safety Management Systems and ongoing environmental monitoring prior to the start of operations. The Model also includes specific provision for environment and health and safety related costs that will be incurred during operations.

Wolf Minerals is making separate provision for the costs of eventual closure in the form of a bond that has been agreed with various parties (landowners and regulatory authorities) as part of the permitting process.

## 10.5 FINANCIAL

Micon has reviewed the capital costs and considers the estimate to be realistic. Micon notes that there is a cost overrun account of £10.5 million available to Wolf Minerals.

Micon has reviewed the operating costs pertaining to each discipline as used in the Model and considers them reasonable.

Micon has reviewed the scheduling assumptions and believes they are appropriate based on current knowledge. The commodity pricing and realisation cost assumptions have not been reviewed by Micon as this is beyond the scope of this Report.

Micon believes that the administration costs, royalty, tax and depreciation parameters are reasonable.

A pit optimisation was performed by Wolf Minerals to assess the "potentially mineable" resource beyond the current pit design assuming that the restrictions on the pit surface circumference are lifted. The unconstrained pit optimisation produced an ultimate pit shell that would give an 18-year mine life totalling 50.4. Mt at 0.15% W and 0.02% Sn and extend the current pit design by a further four years. BDO has valued the material inside the 18-year pit based on an estimation of the recoverable Measured and Indicated mineral resources provided by Wolf Minerals.

Micon has conducted a valuation of Hemerdon Measured and Indicated mineral resources that are outside of the ultimate pit shell (18-year mine life). It is estimated that there is 0.61 million mtu $WO_3$ recoverable in the Measured and Indicated mineral resources outside of the 18-year pit. Micon has estimated a preferred value £43.4/mtu $WO_3$ recovered to these Measured and Indicated mineral resources to reflect increases in pit depth, mining and processing costs. A factor has been applied to reflect the likelihood of the material being mined at some point in the future. The likelihood of extracting all of the Measured and Indicated mineral resources outside of the 18-year pit is estimated to be 25%. Using these parameters a low value of £5.0 million and high value of £7.8 million was estimated based on variation of the discount factor with a preferred value of £6.6 million.

Micon has conducted a valuation on the Measured, Indicated and Inferred mineral resources outside of the 18-year pit using the Multiple of Exploration Expenditure (MEE) method and estimated a value of £0.13/t for the Measured and Indicated mineral resources and £0.065/t for the Inferred mineral resources. The MEE (preferred) valuation of the Measured and Indicated mineral resources is £1.1 million and the value of Inferred mineral resources is £5.3 million.

Micon's opinion of the fair market value of this asset (mineral resources outside of the 18-year pit) of the Hemerdon Project therefore lies in the range of £10.3 million and £13.1 million with a preferred value of £11.9 million.

## 11.0 DATE AND SIGNATURE PAGE

Signed on behalf of Micon International Co Limited:


**Stanley C. Bartlett, M.Sc., PGeo.**
**Micon International Co Limited**

**Dated: 12th February 2016**

## 12.0 REFERENCES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# 13.0 CERTIFICATE

## CERTIFICATE OF AUTHOR STANLEY CURRIE BARTLETT

As the author of the "Independent Technical Assessment and Valuation Report of the Hemerdon Tungsten Project, Devon, Cornwall United Kingdom", dated 12th February 2016, I, Stanley Currie Bartlett, hereby certify that:

1) I am employed by, and conducted this assignment for, Micon International Co Limited, Suite 10, Keswick Hall, Norwich, United Kingdom. tel. 0044(1603) 501 501, fax 0044(1603) 507 007 e-mail sbartlett@micon-international.co.uk;

2) I hold the following academic qualifications:

| | |
|---|---|
| B.Sc. Geological Sciences | University of British Columbia, Vancouver, Canada, 1979; |
| M.Sc. (Mining Geology) | Camborne School of Mines, Redruth, England, 1987; |

3) I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (membership # 19698); In addition I am a member in good standing of the Society for Mining, Metallurgy and Exploration;

4) I have worked as a geologist in the minerals industry for more than 36 years;

5) I do, by reason of education, experience and professional qualifications fulfil the requirements of a Competent Person as defined by the JORC Code or Qualified Person as defined in "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (The Valmin Code 2005). My work experience includes five years as an exploration geologist developing tungsten, gold, silver and base metal deposits, more than 14 years as a mining geologist in both open pit and underground mines and 17 years as a consulting geologist working in precious, ferrous and base metals and industrial minerals. I have more than 30 years of experience of mineral resource estimation;

6) As of the date of this certificate, to the best of my knowledge, information and belief, the "Independent Technical Assessment and Valuation Report of the Hemerdon Tungsten Project, Devon, Cornwall United Kingdom", dated 12th February 2016, contains all scientific and technical information that is required to be disclosed to make this Report not misleading;

7) I am independent of BDO Corporate Finance (WA) Pty Limited and Wolf Minerals Limited, its directors, senior management, and its other advisers; and,

8) I am responsible for the preparation or supervision of preparation of all sections of this Report.



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**Stanley C. Bartlett, M.Sc., PGeo. (#19698)**
**Senior Economic Geologist, Managing Director,**
**Micon International Co Limited**
**Date: 12th February 2016**

# 14.0 GLOSSARY AND ABBREVIATIONS

## 14.1 MINERAL RESOURCES AND RESERVES DEFINITIONS

### 14.1.1 Mineral Resources

The mineral resources and ore reserves have been classified according to the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code) 2012. Accordingly, the resources have been classified as Measured, Indicated or Inferred, the reserves have been classified as Proven, and Probable based on the Measured and Indicated resources as defined below.

A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify, geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to Ore Reserves. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics, are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits,

workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered.

A Measured Mineral Resource has a higher level of confidence than that applying to an Indicated or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.

### 14.1.2 Ore Reserves

An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level (as appropriate) and include application of Modifying Factors. Such studies demonstrate that, at the time of reporting extraction could reasonably be justified.

The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

A 'Probable Ore Reserve' is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve.

A 'Proved Ore Reserve' is the economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors.

## 14.2 GLOSSARY

**Acicular:** A crystal habit exhibiting slender, needle-like crystals.

**Amenability to processing:** The ability of minerals to separate into certain products in the course of processing. It depends on the contrast range of the mineral diversification properties. Amenability to processing is a metallurgical evaluation of a possibility to extract minerals from ore by means of processing.

**Ammonium Paratungstate $(NH4)_{10}H_2W_{12}O_{42}.4H_2O$:** Intermediate tungstate refined product comprising of white crystalline powder.

**Aphanitic:** A term used for igneous rocks exhibiting crystals not visible to the naked eye.

**Argillaceous rocks:** Group of detrital sedimentary rocks, commonly clay, shale, mudstone, siltstone and marl.

**Arsenopyrite (FeAsS)**: Iron arsenic sulphide. Commonly gold bearing mineral formed in high temperature veins.

**Aureole:** A region in country rock around an igneous intrusion that has experienced thermal metamorphism due to heat from the body of magma.

**Basalt:** A finely crystalline igneous rock with a basic composition.

**Batholith:** Large body of igneous rock formed beneath the Earth's surface by the intrusion and solidification of magma.

**Brecciated (breccia):** Fragmented rock consisting of angular particles that have not been worn by water (unlike conglomerates).

**Cassiterite ($SnO_2$):** Tin oxide. Commonly found in vein deposits, granitic rocks, pegmatites and in areas of contact metamorphism.

**China Clay:** A fine, usually white clay, composed mainly of kaolinite.

**Chlorite $(Mg,Fe)_3(Si,Al)_4O_{10}(OH)_2.(Mg,Fe)_3(OH)_6$**: Sheet silicate mineral primarily found in weakly metamorphosed rocks from the alteration of either clays in sedimentary rocks or pyroxenes, amphiboles and micas in igneous rocks.

**Cupola:** A small, dome-shaped, satellite intrusion projecting upwards from the main body of a larger intrusion or batholith.

**Cut-off criteria:** A set of requirements for the quality and quantity of a mineral in subsoil, for mining and other conditions of the deposit development that define the commercial value of the deposit. The cut-off criteria are used to estimate ore reserves.

**Cut-off grade:** The minimum concentration of a valuable component in a marginal sample of the mineral. The cut-off grade is used to delineate parts of the deposit to be mined.

**Diabase:** A dark-grey to black, finely crystalline igneous rock.

**Dense medium separation:** The process of gravity separation of minerals based on using a dense medium (suspension).

**Dilution:** Waste rock that is, by necessity, removed along with the ore in the mining process subsequently lowering the grade of the ore.

**Dip angle:** The angle between the direction of the described geological structure and horizontal plane.

**Due diligence:** The procedure of forming an objective opinion about the investment facility that includes investment risks, independent assessment of the facility, comprehensive research on the company's operation, complex inspection of its financial status and market position. Due diligence is usually performed prior to a business purchase, a merger (acquisition) deal or start of cooperation with the company.

**Dyke:** An intrusive geological body with transversal contacts. The length of a dyke many times exceeds its width, whereas the planes are nearly parallel. As such, a dyke is a fracture that has been filled with magmatic melt.

**Feldspars:** A group of silicate minerals with four distinct categories, potassium feldspars ($KAlSi_3O4$); sodium feldspars ($NaAlSi_3O8$); calcium feldspars ($CaAl_2Si_2O_8$); and barium feldspars ($BaAl_2Si_2O_8$).

**Flotation:** A mineral separation process whereby a froth created in water by a variety of reagents floats some finely crushed minerals whereas others sink.

**Fluorite ($CaF_2$)**: Calcium fluoride mineral commonly found in hydrothermal veins.

**Geological fault:** Discontinuity of rock with or without a shift on the surface. Faults occur due to the movement of rock masses.

**Granite:** A coarsely crystalline igneous rock consisting essentially of quartz, alkali feldspar and commonly mica.

**Greenschist facies:** Zone of low-grade metamorphic rocks characterised by a suite of minerals typically containing actinolite, epidote, chlorite, albite and quartz.

**Greisen:** A medium-temperature metasomatic rock characterised by the presence of quartz and white mica, commonly with topaz, fluorite, tourmaline and locally with amazonite, orthoclase, andalusite and diaspore. Typically greisens may host Be, W, Mo, Sn, and Ta mineralisation.

**Greisenisation:** A metasomatic process leading to the formation of greisens.

**Hard rock deposit:** Primary accumulation of a mineral substance in subsoil that has not been altered or destroyed near the ground surface. Hard rock deposits are opposed to placer deposits formed by the result of disintegration of hard rock deposits and mineralised rock.

**Hematite ($Fe_2O_3$):** Iron oxide common in igneous, metamorphic and sedimentary rocks.

**Hornblende**: A common calcic amphibole (silicate mineral).

**Hornfels:** A metamorphic rock that is formed by contact metamorphism.

**Host rock:** Wall rock that confines the mineral occurrence zone.

**Intrusion:** A body of igneous rock that invades older rock. The invading rock may be a plastic solid or magma that pushes its way into the older rock.

**Jaw crusher:** A device in which rock is broken by a reciprocating compressive action between two steel plates.

**JORC Code:** The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserve Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia. The current edition is dated 2012.

**Kaolinite ($Al_2Si_2O_5(OH)_4$):** A common clay mineral.

**Kaolinisation:** Process whereby feldspar in granite is weathered by hydrothermal activity to produce kaolinite.

**Limonite ($FeO.OH.nH_2O$)**: Hydrated iron oxide mineral.

**Magmatic:** Consisting of, relating to or of magma origin.

**Magnetite ($Fe_3O_4$):** Iron oxide common in igneous, metamorphic and sedimentary rocks, strongly magnetic and an important source of iron.

**Metamorphic rock:** A rock that has, in a solid state, undergone changes in mineralogy, texture, or chemical composition as a result of heat or pressure.

**Mica:** Group of sheet silicate minerals which characteristically have perfect basal cleavage.

**Mine:** A mineral mining enterprise. The term is often used to refer to an underground mine.

**Mineral Deposit:** A body of mineralisation that represents a concentration of valuable metals. The limits can be defined by geological contacts or assay cut-off grade criteria.

**Mining method:** A combination of technical solutions that define the geometry, technology and sequence of mining.

**Muscovite ($KAl_2(AlSi_3O_{10})(F,OH)_2$)**: Sheet silicate mineral common in igneous and metamorphic rocks, occurring as a detrital mineral in sedimentary rocks.

**Open pit**: A mine that is entirely on surface; also referred to as open-cut or open-cast mine.

**Operational reserves**: Balance mineral reserves that have been adjusted for dilution and losses, and have been incorporated into a mine production schedule.

**Ore:** Natural mineral formation that contains valuable components in such compounds and concentrations that make the mining technically and economically feasible.

**Ore body**: A body of mineralisation that either has been, or demonstrates a reasonable probability of being mined profitably.

**Ore field**: A collection of mines that exploit a common mineral deposit or cluster of closely related mineral deposits.

**Overburden:** Waste rock overlying and hosting mineral deposits that is subject to excavation in the course of open-pit mining. The process of overburden removal to access and mine the mineral is called stripping.

**Pelite:** A metamorphosed argillaceous rock.

**Pluton:** A body of intrusive igneous rock that has crystallised from magma below the surface of the Earth.

**Porphyritic (with porphyritic structure):** Rock that contains relatively large crystals (phenocrysts) cemented by a groundmass of smaller crystals, glassy or non-holocrystalline material.

**Processing:** A combination of processes for primary treatment of solid minerals in order to extract the products amenable to further technically and economically feasible chemical or metallurgical treatment or use.

**Run of mine (ROM)**: A term used loosely to describe ore of average grade as produced from the mine.

**Saleable ore:** The term used to describe ore of average grade coming from the mine.

**Sampling:** The process of studying the qualitative and quantitative composition and properties of natural formations comprising a deposit.

**Scorodite ($FeAsO_4.2H_2O$)**: Hydrated iron arsenate formed from the oxidation of arsenic minerals.

**Sedimentary rock:** Rock formed by sedimentation of substances in water, less often from air and due to glacial actions on the land surface and within sea and ocean basins. Sedimentation can be mechanical (under the influence of gravity or environment dynamics changes), chemical (from water solutions upon their reaching saturation concentrations and as a result of exchange reactions), or biogenic (under the influence of biological activity).

**Skarn:** Metasomatic rock formed at the contact between a silicate rock (or magmatic melt) and a carbonate rock. It consists mainly of Ca-Mg-Fe-Mn- silicates, which are free or poor in water. Skarns formed from the magmatic or other silicate rock are termed endoskarns and skarns formed from the carbonate rocks are termed exoskarns.

**Stripping ratio:** The relation of overburden volume to a mineral volume. A stripping ratio largely defines the economic feasibility of open-pit mining.

**Subgreenschist facies:** Zone of very low-grade metamorphic rocks characterised by a suite of minerals typically containing prehnite, pumpellyite, actinolite and laumontite.

**Suite:** An aggregate of conformable rock beds with similar general properties that differentiate them from overlying or underlying rocks.

**Supergene:** Term used to describe near-surface processes and their products, formed at low temperature and pressure by the activity of descending water and gas.

**Tailings:** Liquid wastes of mineral processing with valuable component grade lower than that of the initial material.

**Tailings facility:** A complex of special structures and equipment used for storage of liquid wastes of mineral processing (tailings).

**Tourmaline ($Na(Mg,Fe,Li,Mn,Al)_3(Al)_6(BO_3)_3(Si)_6.O_{18}(OH,F)_4$):** A boron silicate mineral commonly found in granites, pegmatites and veins, as well as some metamorphic rocks.

**Tourmalinisation:** A metasomatic process involving boron rich volatiles reacting with pre-existing minerals leading to the formation of various types of tourmaline.

**Tuff:** A fragmental rock consisting of consolidated volcanic ash and small rock fragments ejected from a volcanic eruption.

**Vein:** Tabular geological body formed as a result of mineral substance filling a fracture or due to metasomatic replacement of rock with mineral(s) along a fracture. Unlike dykes formed primarily by magmatic rock, a vein is composed of vein and ore minerals (quartz, carbonated, sulphides etc.).

**Volcanogenic:** Of volcanic origin.

**Waste dump:** An artificial dump formed as a result of disposing of overburden (waste rock) at specially designated sites.

**Wolframite ($(Fe,Mn)WO_4$):** Iron manganese tungstate mineral commonly found in veins associated with granitic intrusions.

## 14.3 ABBREVIATIONS

| | |
|---|---|
| ° | degree (angle) |
| % | percent |
| < | Less than |
| > | Greater than |
| £ | Pound(s) sterling |
| AMAX | American Metal Climax, Inc. |
| AMPLA | Australian Mining & Petroleum Law Association |
| APT | Ammonium paratungstate |
| AU $ | Australian dollar(s) |
| BCM | Bank Cubic Metres |
| BDO | BDO Corporate Finance (WA) Pty Ltd |
| °C | Centigrade |
| CP | Competent Person |
| d | Day(s) |
| DFS | Definitive Feasibility Study |
| EIS | Environmental Impact Statement |
| Fe | Iron |
| g | Gram(s) |
| g/L | Grams per litre |
| g/t | Grams per tonne |
| GB £/t | British Pounds Sterling per tonne |
| h | Hour(s) |
| HIMS | High Intensity Magnetic Separation |
| $ID^2$ | Inverse distance squared |
| IRR | Internal Rate of Return |

| | |
|---|---|
| kg | Kilogramme |
| km | Kilometre(s) |
| $km^2$ | Square Kilometre |
| kW | Kilowatt(s) |
| kWh | Kilowatt hour(s) |
| kWh/t | Kilowatt hours per tonne |
| L | Litre(s) |
| LIMS | Low Intensity Magnetic Separation |
| LOM | Life-of-Mine |
| Ma | Millions of years ago |
| m | Metre(s) |
| mm | Millimetre |
| µm | Micron |
| $m^2$ | Square metre |
| $m^3$ | Cubic metre |
| m/s | Metres per second |
| Micon | Micon International Co Limited |
| Mn | Manganese |
| MSC | Mining Services Contract area |
| Mt | Million tonnes |
| Mt/a | Million tonnes per year |
| MWF | Mining waste facility |
| mtu | Metric tonne unit |
| NPV | Net Present Value |
| ppm | Parts per million |
| QA/QC | Quality assurance/quality control |
| QP | Qualified Person |
| ROM | Run of Mine |
| s | Second |
| Sn | Tin |
| SRK | SRK Consulting (UK) Limited |
| st | Short ton (2,000 pounds) |
| st/d | Short tons per day |
| st/y | Short tons per year |
| t | Tonne (metric, 2,204.6 pounds) |
| t/a | Tonnes per year |
| t/d | Tonnes per day |
| t/h | Tonnes per hour |
| t/m | Tonnes per month |
| US $ | United States dollar(s) |
| UPVC | Unplasticised polyvinyl chloride |
| V | Volt(s) |
| VAT | Value Added Tax |
| W | Tungsten |
| $WO_3$ | Tungsten trioxide |
| Wt% | Weight percent |
| XRF | X-ray fluorescence |
| y | Year(s) |

# BDO CORPORATE FINANCE (WA) PTY LTD

# HEMERDON TUNGSTEN-TIN DEPOSIT

# DEVON

# UNITED KINGDOM

# INDEPENDENT TECHNICAL ASSESSMENT AND VALUATION REPORT

**Prepared By**

**Micon International Co Limited**
**Suite 10 Keswick Hall, Norwich, NR4 6TJ, United Kingdom**

**12th February 2016**

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# 1.0 INTRODUCTION

Micon International Co Limited (Micon) has undertaken an independent Technical Assessment and Valuation Report (Report) of the Hemerdon tungsten project on behalf of BDO Corporate Finance (WA) Pty Ltd (BDO). The Hemerdon Project is owned and operated by Wolf Minerals Limited (Wolf Minerals). The Report was prepared in compliance with the "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports" (The Valmin Code 2005).

Wolf Minerals is headquartered in Subiaco, Western Australia. The company was formed in September, 2006 and has been listed on the Australian Stock Exchange (ASX) since February, 2007. Wolf Minerals' primary focus has been to acquire and develop the Hemerdon tungsten project, which has been renamed the Drakelands mine.

BDO has been engaged by Wolf Minerals to prepare an Independent Expert's Report for inclusion with a Notice of Meeting, to support the proposed issue of Wolf Minerals' shares. The Notice of Meeting and report will address the proposed issue of Wolf Minerals shares to raise equity funding.

BDO will prepare a valuation of Wolf Minerals' Hemerdon Project on a discounted cash flow basis. Micon is required to review the technical project assumptions in the cash flow model for the Hemerdon Project prepared by Wolf Minerals (the Model) together with a technical assessment report on the mining and geological inputs in the model. A copy of the Report will be appended to BDO's report.

Micon has reviewed mining operations and prepared Technical Independent Expert Reports for a number of companies operating throughout the world. Micon has extensive knowledge of the reporting requirements in all the major mining finance centres including London, Toronto, New York, Sydney and Stockholm.

Micon has been acting as Independent Engineer for the Senior Lenders involved in the Hemerdon Project since September 2011.

As Independent Engineer on behalf of Senior Lenders for the Hemerdon Project, Micon has made frequent visits to the project site over the last four years to review the project progress. The latest site visit to the project made by Micon personnel was by James Turner on 4th November 2015.

# 2.0 SCOPE OF THE TECHNICAL REPORT AND TERMS OF REFERENCE

## 2.1 PURPOSE AND SCOPE OF THE REPORT

This Report has been prepared on behalf of BDO Corporate Finance (WA) Pty Ltd (BDO) and reviews the technical project assumptions in the Model together with a technical assessment report on the mining and geological inputs in the Model. The Report has been prepared in accordance with the formatting requirements of the "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (The Valmin Code 2005) and is intended to be read in its entirety.

The mineral resource estimate was prepared by SRK Consulting and the ore reserve estimate was undertaken by CUBE Consulting Pty Ltd. Micon has reviewed these estimates and confirms that they have been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('the JORC Code') 2012.

The Model takes into account the pit design (ore reserve estimate) to produce a 9 year mine life (see Section 6.2). A subsequent pit optimisation exercise was performed by Wolf Minerals to assess the "potentially minable" resource (not ore reserve) beyond the Base Case pit design to produce an ultimate pit shell which may extend the mine life to 18 years.

In addition to the review of the technical project assumptions contained in the Model Micon has provided an independent opinion of market valuation of the Measured, Indicated and Inferred Mineral Resources outside of the 18-year optimised pit.

## 2.2 CAPABILITY AND INDEPENDENCE

Micon is an independent firm of geologists, mining engineers, metallurgists and environmental consultants, all of whom have extensive experience in the mining industry. The firm operates from integrated offices in Norwich and Cornwall, United Kingdom and Toronto and Vancouver, Canada. Micon offers a broad range of consulting services to clients involved in the mineral industry. The firm maintains a substantial practice in the geological assessment of prospective properties, the independent estimation of resources and reserves, the compilation and review of feasibility studies, the economic evaluation of mineral properties, due diligence reviews, and the monitoring of mineral projects on behalf of financing agencies.

Micon's practice is worldwide and covers all of the precious and base metals, the energy minerals (coal and uranium) and a wide variety of industrial minerals. The firm's clients include major mining companies, most of the major United Kingdom and Canadian banks and investment houses, and a large number of financial institutions in other parts of the world. Micon's technical, due diligence and valuation reports are typically accepted by regulatory agencies such as the London Stock Exchange, the US Securities and Exchange Commission, the Ontario Securities Commission, the Toronto Stock Exchange, and the Australian Stock Exchange.

Micon is internally owned and is entirely independent of BDO Corporate Finance (WA) Pty Ltd and Wolf Minerals Limited and their affiliated companies. The personnel responsible for this review and opinions expressed in this Report are Micon's full-time employees or Micon

associates. For its services in preparing this Report, Micon is receiving payment based upon time and expenses and will not receive any capital stock from either BDO Corporate Finance (WA) Pty Ltd or Wolf Minerals Limited or any of their affiliated companies. Micon reimburses its associates based upon agreed rates, time and expenses.

Payment to Micon for work completed is not dependent on the outcome of the Technical Assessment/Valuation or on the success or failure of any transaction for which the Independent Expert Report was required.

## 2.3 QUALIFICATIONS OF THE CONSULTANT

This Technical Report has been prepared by Micon International Co Limited (Micon) from its UK office. The following authors have contributed to the Technical Report:

- Stanley Bartlett, M.Sc., PGeo., who is a Competent Person as defined by the JORC Code by reason of education, experience and professional registration, has overall responsibility for the Report and specifically Sections 1.0, 2.0, 3.0, 4.0 and 5.0;
- Bruce Pilcher, B.E., CEng., *EurIng.*, FIMMM., FAusIMM CP(Min), who is responsible for Sections 6.0 and 9.0, covering Mine Planning and Mineral Reserve Estimation and Financial considerations respectively;
- James Turner, B.Sc., (Hons)., M.Sc., CEng., MIMMM., who is responsible for Section 7.0 and 10.0, covering Mineral Processing and Metallurgical Testing, and Recovery Methods and Conclusions respectively;
- Chris Gilchrist, CEng., PhD., FIMMM., Micon Associate, who is responsible for portions of Section 7.0;
- Jim Tapp, IEng., MCMI., MIPlantE., AMIQ., MSOE., Senior Micon Associate who is responsible for Sections 6.3.1 and 7.1; and,
- Mark Dodds-Smith, PhD., who is responsible for Section 8.0 covering Environmental Studies, Permitting and Social and Community Issues.

## 2.4 TECHNICAL REPORT USE

This Report is intended to be used by BDO subject to the terms and conditions of its agreement with Micon.

The conclusions and recommendations in this Report reflect the authors' best judgment in light of the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this Report and conclusions if additional information becomes known to them subsequent to the date of this Report. Use of this Report acknowledges acceptance of the foregoing conditions.

## 2.5 LIMITATIONS AND EXCLUSIONS

Whilst Micon has reviewed the exploration and mining licences, permits and entitlements of the property in so far as these may influence the investigation and development of the mining assets, Micon has not undertaken legal due diligence of the asset portfolio described in this Report. The reader is therefore cautioned that the inclusion of exploration and mining properties within this Report does not in any form imply legal ownership.

During the preparation of this Report, Micon has relied upon information provided by Wolf Minerals, which describes the legal title, infrastructure, exploration history, geology and mineralisation, resources, reserves, mining and metallurgical design, and capital and operating budgets proposed for the project.

The commodity pricing has not been reviewed by Micon, as this is beyond the scope of this Report.

## 2.6 SOURCES OF INFORMATION

Micon has reviewed all the information made available by Wolf Minerals during Micon's continuing role as Independent Engineer for the Senior Lenders and, in particular, the latest version of the Model provided as a spreadsheet.

A full list of references used in preparing this Report is listed in Section 12.0.

## 2.7 UNITS, CURRENCY AND ABBREVIATIONS

All financial values are reported in British Pounds Sterling GBP (£) while units are reported in the Système Internationale d'Unités (SI), as utilised by the British and international mining industries, including: metric tons (tonnes, t), million metric tonnes (Mt), kilograms (kg) and grams (g) for weight; kilometres (km), metres (m), centimetres (cm) or millimetres (mm) for distance; cubic metres ($m^3$), litres (l), millilitres (ml) or cubic centimetres ($cm^3$) for volume, square kilometres ($km^2$) or hectares (ha) for area, weight percent (%) for base metal grades, grams per metric tonne (g/t) for gold grades (g/t Au) and tonnes per cubic metre ($t/m^3$) for density.

Quantities of tungsten in ores and concentrates and prices for concentrates and the principal intermediate product, ammonium paratungstate (APT), are generally given in terms of metric tonne units (mtu) of the contained equivalent trioxide ($WO_3$). One mtu of $WO_3$ is equivalent to 10 kg $WO_3$ or 7.93 kg tungsten (W).

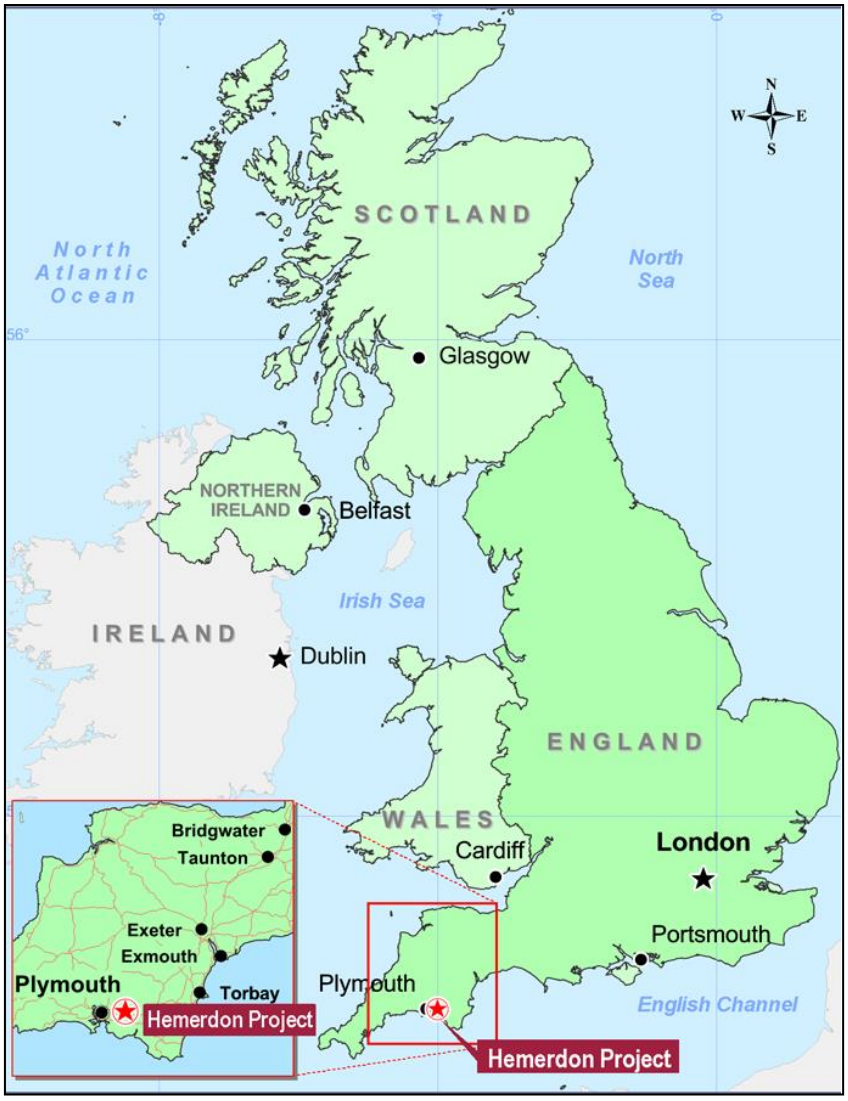
A glossary of terms and abbreviations can be found in Section 14.0.

# 3.0 LOCATION, DESCRIPTION AND HISTORY OF THE PROJECT

## 3.1 LOCATION

The Hemerdon project is located in Devon, southwest England, approximately 7 miles (11 km) northeast of Plymouth and some 60 km southeast of the county town of Exeter (Figure 3.1).

**Figure 3.1: General Location Map**




Source: Micon Hemerdon Due Diligence Report 2012

Plymouth has a population of approximately 260,000 and is a regional tourist centre. Imerys produces kaolin (china clay) at Hemerdon Lee Moor, 3 km north of the Hemerdon project. Although rural, extensive infrastructure exists in the area and off-site infrastructure construction has been limited to improvement of existing access roads, provision of high voltage power supply, and installation of a raw-water pumping station and buried water supply pipeline.

Figure 3.2 shows an aerial view of the Hemerdon Project site, the blue outline shows the planned mine area.

**Figure 3.2: Aerial View of the Hemerdon Project Site**


Source: Wolf Minerals 2014

## 3.2 OWNERSHIP AND PERMITS

In the UK, land title includes the rights to most of the minerals within. This is defined by British Geological Survey's Centre for Sustainable Mineral Development (Minerals UK) as follows; "With the exception of oil, gas, coal, gold and silver, the state does not own mineral rights in the UK. Generally minerals are held in private ownership, and information on mineral rights, where available, is held by the Land Registry together with details of land surface ownership".

Micon has reviewed property title documents for the Hemerdon project and has confirmed that the area covered by the mineral resources discussed in this Report are covered by mineral and surface rights that are either owned outright, or are under lease to Wolf Minerals. The principle titles related to the mineral rights are summarised in Table 3.1.

### 3.2.1 Lease

The lease for the Hemerdon property is titled "Lease of Mineral and Rights at Hemerdon Mine and Crownhill Down, Plympton Plymouth" and was signed by Wolf Minerals (UK) Limited as "the Tenant", with Wolf Minerals Limited as "the Guarantor", on 10th February 2014. The Landlords of the lease comprise the following:

- "the Mineral Trustees";
- "the Olver Estate Trustees";
- "the Hemerdon Trustees";
- "the Newnham Trustees";
- "Holly Down"; and,
- "Hemerdon".

The lease is valid for 40 years and the Landlord's title numbers are DN582555, DN583327, DN584688, DN88450 and DN630911.

The agreement with the landowners includes a royalty of 2% of the net smelter return (NSR).

Additional mineral rights are held by Wolf Minerals (UK) Limited through outright land ownership. Wolf Minerals owned area underlain by mineral resources is covered by DN136917 and DN537487. A charge against DN136917 is registered in the name of Unicredit Bank AG against an obligation to provide funding. A restrictive covenant against DN537487 requires revegetation of portions of the land prior to sale of the property.

The Lease of Mineral Rights described above is recorded as DN643856. This lease bears a charge held by Unicredit Bank AG against an obligation to provide funding.

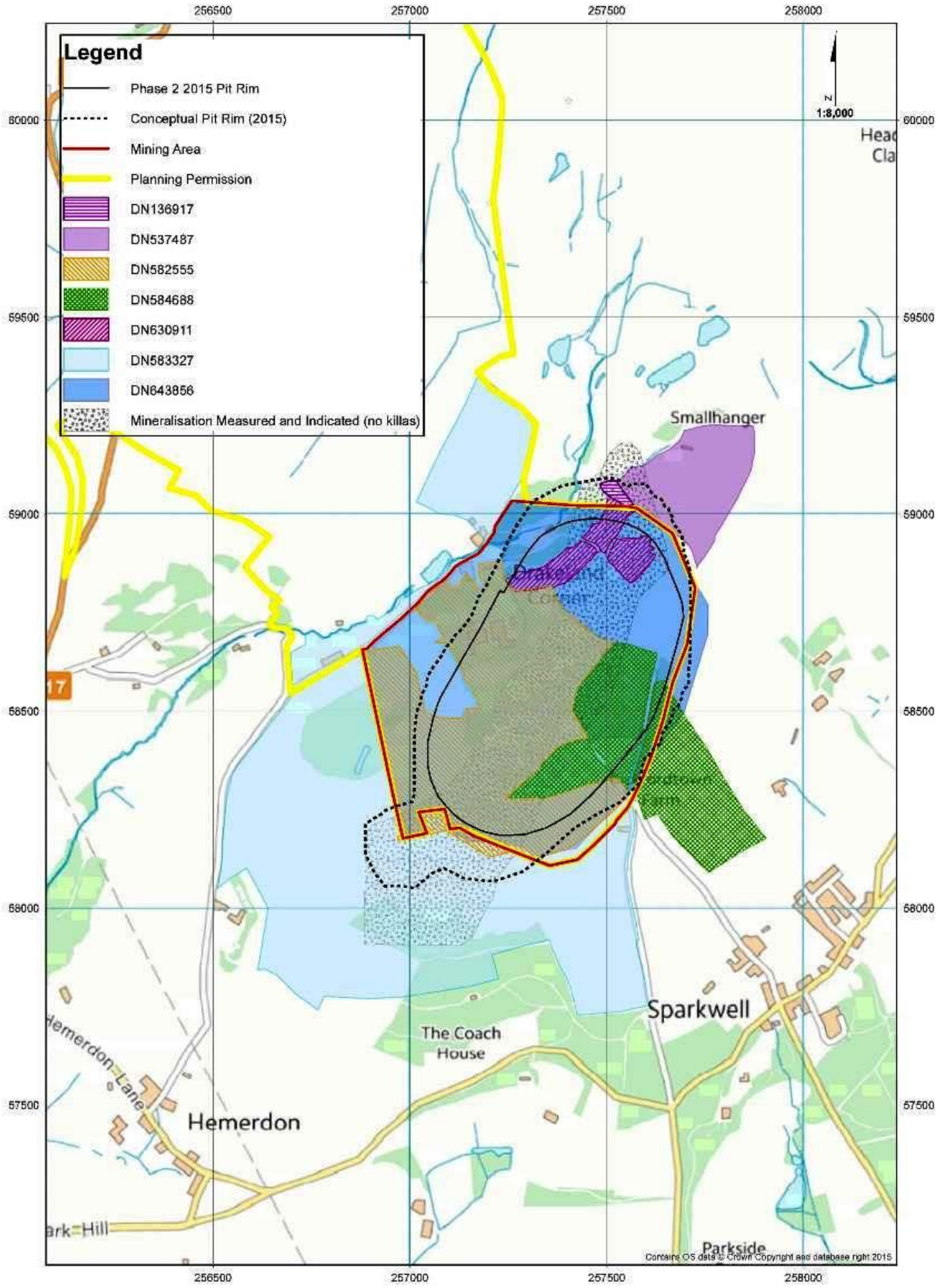
A plan showing the relationship between land and mineral lease titles, Hemerdon mineral resources and planned and extended open pits is presented in Figure 3.3. It should be noted that DN88450 and DN584688 cover the same property; DN88450 pertains specifically to the land and DN584688 to the lease of minerals.

**Table 3.1: Hemerdon Mineral Title**

| Title | Proprietor/Leaseholder | Date | Charge Beneficiary | Area (acres) | Charge | Charge Date | Charge Title |
|---|---|---|---|---|---|---|---|
| DN136917 | Wolf Minerals (UK) Limited | 24.03.2014 | Unicredit Bank AG | 0.7 | Debenture | 24.03.2014 | DN643856 |
| DN537487 | Wolf Minerals (UK) Limited | 17.10.2013 | Wolf Minerals (UK) Limited | 17.0 | Restrictive Covenants | 17.10.2013 | DN636341 |
| DN582555 | Hemerdon Land LLP | 21.01.2011 | Wolf Minerals (UK) Limited | 71.8 | Lease of Minerals | 10.02.2014 | DN643856 |
| DN584688 | Hemerdon Trustees | 04.02.2009 | Wolf Minerals (UK) Limited | 35.8 | Lease of Minerals | 10.02.2014 | DN643856 |
| DN630911 | Olver Trust | 23.01.2013 | Wolf Minerals (UK) Limited | 7.4 | Lease of Minerals | 24.03.2014 | DN643856 |
| DN583327 | Newnham Trustees | 05.11.2012 | Wolf Minerals (UK) Limited | 239.2 | Lease of Minerals | 10.02.2014 | DN643856 |
| DN643856 | Wolf Minerals (UK) Limited | 24.03.2014 | Unicredit Bank AG | 138.5 | Debenture | 24.03.2014 | DN643856 |
| DN88450 | Hemerdon Land LLP | 03.12.2010 | Wolf Minerals (UK) Limited | 35.8 | Lease of Minerals | 10.02.2014 | DN643856 |

Note: Areas are approximate. The area of DN88450 was derived from Land Registry plans.

**Figure 3.3: Hemerdon Mineral Title**



### 3.2.2 Planning Permission

The primary control over the development of mineral workings in England is exercised by the Mineral Planning Authority (in this instance Devon County Council) through granting of Planning Permission. Planning Permission (No. 9/42/49/0542/85/3) was granted in 1986 to the previous owner of the project, but the project did not progress to construction due to the metal prices prevailing at that time.

In consultation with the planning authorities, Wolf Minerals accepted a voluntary updating of the conditions associated with the original Planning Permission to reflect changes in environmental standards and good practice, which was formalised through the issuing by the Mineral Planning Authority of a Modification Order in January 2011.

The 1986 Planning Permission remains valid (provided that the project is developed in the same way as that proposed in 1986). Wolf Minerals has, however, incorporated some design elements that differ from those approved within the original Planning Permission, including revised dimensions for the process plant, incorporation of a reduction kiln and enlarged surface water management ponds. Accordingly, an application to the planning authority to revise these elements of the original project design was made in January 2014 and was determined in April 2014.

Additional permits related to environmental considerations are detailed in Section 8.0.

## 3.3 HISTORY

The Hemerdon tungsten deposit was discovered in 1867. It was mined as a source of tungsten for short periods in the First and Second World Wars. The property was acquired in 1976 by Hemerdon Mining and Smelting Limited, which brought in AMAX as a joint venture partner, and a comprehensive feasibility study was completed in 1982. Planning permission for development and operation of a tungsten mine was granted in 1986 for a period of 35 years.

AMAX did not proceed with the project due to low tungsten prices and the property was transferred in 1986 to Canada Tungsten Mining Corporation Limited (an AMAX subsidiary). Canada Tungsten merged with Aur Resources Inc. in 1996 and Aur sold the tungsten assets to North American Tungsten Corporation Ltd. in 1997. The Hemerdon property continued to be held by North American Tungsten through its subsidiary, Amax Explorations of UK Inc., until 2003 when the lease was not renewed and the interest was written off.

Wolf Minerals acquired the property in December, 2007 and announced that it had signed a 40-year option and lease agreement for the mineral rights and rights to mine on the Hemerdon property with the Hemerdon Mineral Trust and The Olver Trust. The company also announced that it had entered into an agreement with Imerys Minerals Ltd. (Imerys) to purchase additional mineral rights and freehold land. Wolf Minerals subsequently moved forward with scoping, prefeasibility and feasibility studies and, further to completion of the mine construction and official handover of the processing plant to Wolf Minerals on 21st September 2015, is now fully operational.

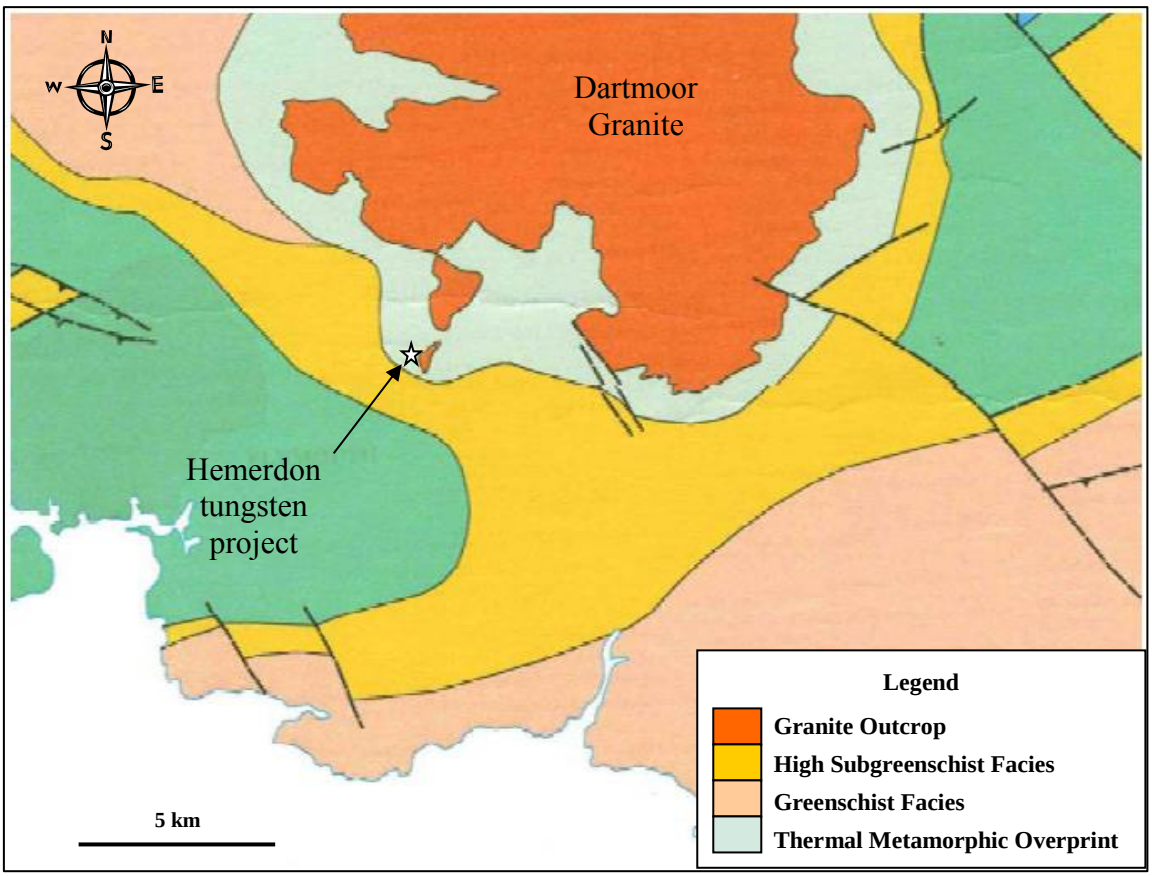
# 4.0 GEOLOGY AND MINERALISATION

## 4.1 REGIONAL GEOLOGY

The Hemerdon tungsten project is hosted within and around a dyke-like body of porphyritic granite known as the Hemerdon Granite and forms a cupola to the south-west of the Dartmoor Granite. The Dartmoor Granite forms the easterly extent of the Cornubian Batholith that was intruded into Lower Carboniferous shale, chert, and limestone during the late Carboniferous to early Permian. The westerly extent of the Cornubian Batholith is marked by the Isles of Scilly, located to the west of Cornwall.

The clastic metasediments exhibit a low greenschist facies regional metamorphic grade. The granite plutons have well developed contact metamorphosed aureoles, featuring hornblende hornfels and spotted pelites. The metamorphic grades in the area of the Hemerdon tungsten project are shown in Figure 4.1.

**Figure 4.1: Metamorphic Grades around the Southern Area of the Dartmoor Granite**




Source British Geological Survey adapted by Micon 2014

Mineralisation of the Cornubian Batholith can be divided into five phases, beginning with the formation of exoskarns caused by the metasomatism of shales and metabasalts. The skarns locally contain economic concentrations of tin, copper, iron and arsenic. Minerals formed in this phase are dated close to the crystallisation age of the associated pluton.

Tin-tungsten mineralisation is the second phase and is associated with the greisenisation and tourmalinisation of the granite by high-temperature late magmatic fluids rich in volatiles.

Veins of cassiterite and wolframite are found associated with the greisens, the former deposited by high salinity, low $CO_2$, fluids and the latter by low salinity, high $CO_2$, fluids. Muscovites within the greisens give cooling ages similar to magmatic muscovite in the relevant granite.

The third and main phase of mineralisation occurred at lower temperatures and involves deposition in veins by fluids circulating within the country rock, leaching out tin, copper and arsenic. These veins are typically comprised of quartz-tourmaline-chlorite-sulphide-fluorite, with tin, copper, lead, zinc, iron and arsenic sulphides. The dominant trend for mineral veins of this stage is west-east and post-date the intrusion age by 25 Ma to 40 Ma.

Lead and zinc mineralisation characterises the fourth phase and is hosted by north-south to northwest-southeast trending veins, known locally as the 'crosscourses' as they cross-cut the earlier west-east trending veins. The fluids responsible for the mineralisation were derived from the Permo-Triassic sedimentary sequences that once overlaid the area. The fluid circulation was driven by the high heat flow of the granite during the late Triassic period.

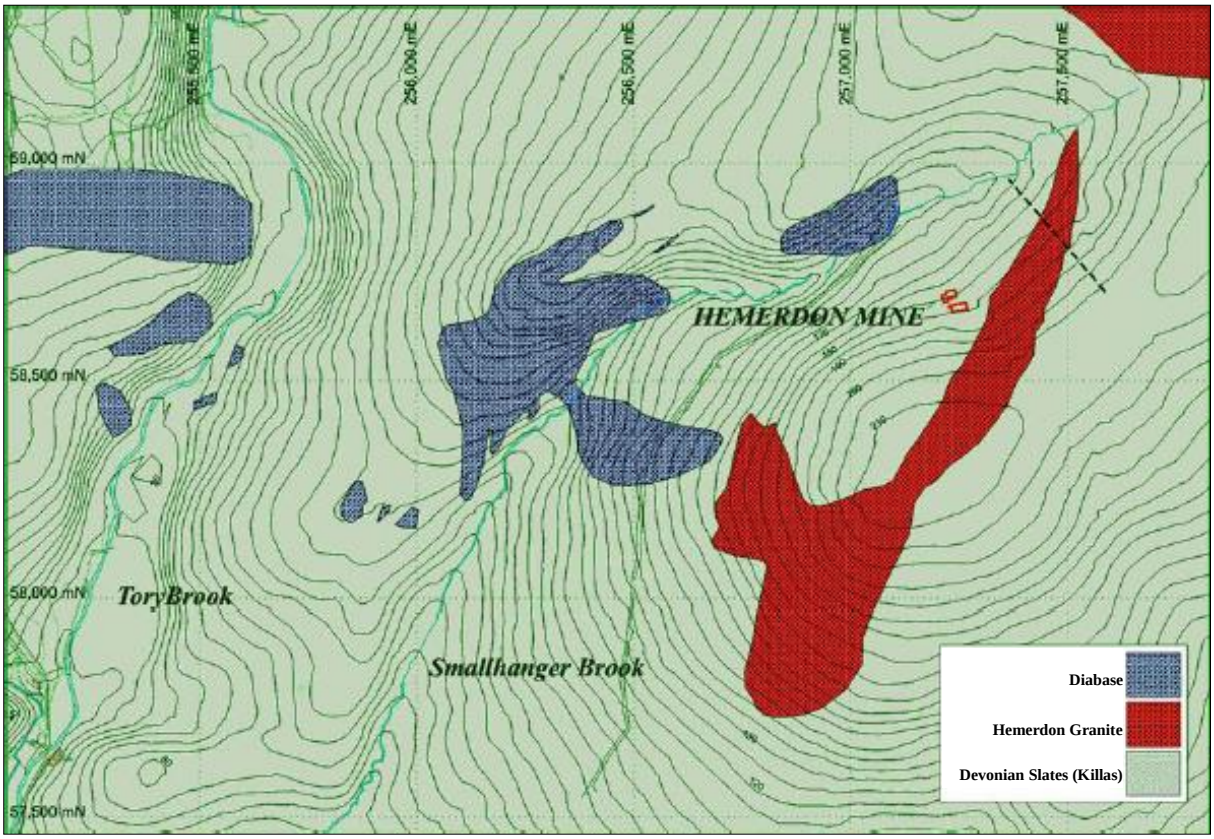
The fifth and final stage of mineralisation involves the formation of China Clay through the kaolinisation of feldspars, possibly resulting from intense supergene weathering during the Cretaceous to Cenozoic periods, or perhaps as a result of hydrothermal alteration. Kaolinisation is observed throughout the Cornubian Batholith and has locally formed large economic deposits such as Lee Moor on the western edge of the Dartmoor Granite.

## 4.2 LOCAL GEOLOGY

Tin and tungsten mineralisation at Hemerdon occur in a stockwork of greisen-bordered quartz veins, bearing wolframite and cassiterite, with minor sulphide minerals. The mineralisation is hosted by an elongate granite stock emplaced in Upper Devonian Slate, with interbedded basic volcanic rocks that are mapped as diabase. Although the veins that host the mineralisation are principally in the granite, the veins also occur in the host slates. Figure 4.2 shows the geology of the area around the Hemerdon Project site.

The Hemerdon Granite outcrops 1,200 m northwest of the village of Sparkwell and is essentially a north-northeast-trending dyke, approximately 140 m wide and dipping steeply towards the east. At least three sets of veins have been distinguished, some lacking greisen borders and others bearing feldspar and hematite in addition to quartz. The stockwork has a strike length of at least 600 m from north-northeast to south-south-west and has been demonstrated by drilling to persist to 400 m below ground surface.

**Figure 4.2: Geological Map of the Area around the Hemerdon Project Site**




Source: Wolf Minerals, 2011

### 4.2.1 Upper Devonian Slate

The Upper Devonian Slates are known locally as killas and form part of the Tavy Formation. The killas are fine grained, biotite-andalusite hornfels, usually soft, friable and highly fractured at surface becoming more competent at depth. These strata are dominantly comprised of grey mudrocks with common silt bands and laminations. The slates have been folded into recumbent south-facing folds and exhibit a well-developed southward dipping cleavage fabric. Intense folding is observed locally. Close to the granite the killas is dark grey and silicified (hornfels). Away from the metamorphic aureole of the Dartmoor Granite, the slates of the Tavy Formation are dominantly greenish in colour and very micaceous.

### 4.2.2 Basic Igneous Rocks

The basic igneous rocks outcropping in the Hemerdon area are small, infrequent and comprised of fine grained aphanitic basalt that are locally termed greenstone. These basic igneous rocks are contemporaneous with the Upper Devonian Slates. Tuffs and volcanic breccias have also been identified 2.6 km from the Hemerdon Project site in BGS diamond drilling near Slade Hall.

### 4.2.3 Hemerdon Granite

The granite is medium grained, porphyritic and comprises quartz, orthoclase, plagioclase and muscovite. The granite contains accessory biotite that has been chloritised and fine needles of disseminated tourmaline. The feldspar crystals exhibit local hematite and limonite staining.

The greisenisation of the granite on vein contacts has resulted in the replacement of the original feldspars with fine grained quartz and a lithium rich muscovite. Cassiterite crystals measuring 5 µm to 100 µm diameter occur in the greisen with occasional wolframite and arsenopyrite crystals.

Tourmaline is a widely distributed hydrothermal alteration product in the Hemerdon Granite, occurring as small veinlets within veins, as inclusions in quartz crystals and as masses of fine acicular crystals within vugs. Tourmaline also occurs massively in quartz-tourmaline shear zones and as breccias in xenoliths of the Upper Devonian Slate.

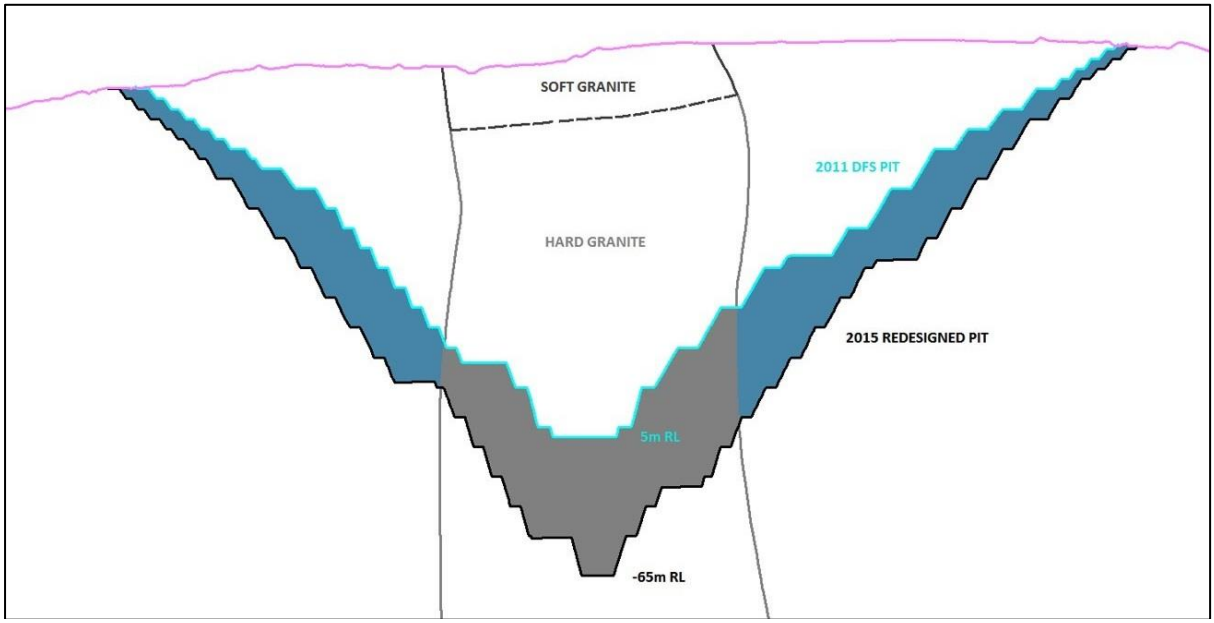
### 4.2.4 Weathering

Surficial weathering of the granite has altered the primary quartz, feldspar and muscovite assemblage to clay minerals, mainly kaolinite and remnant quartz. The weathered zone extends to depths greater than 20 m and is also evident in the slates, which have altered to a weak friable mudrock, and in the extreme case to brown or yellow-brown clay. This is consistent with the deep Tertiary weathering profile observed in parts of Dartmoor and in the more elevated parts of south Devon. The friable surface granite is known locally as Soft Granite and is a separate unit in the geological model.

### 4.2.5 Hemerdon Mineralisation

The Hemerdon granite becomes increasingly kaolinised and greisenised as it plunges beneath a shallow killas cover towards the Crownhill granite to the north-northeast. Contacts with the surrounding killas material are steeply dipping on the northwest and southeast contacts with minor local variations as shown in Figure 4.3.

**Figure 4.3: Cross-Section of the Hemerdon Deposit**




Source: Wolf Minerals, 2015

The granite at the surface is intensely kaolinised to soft, fissile, white, brown and red clays. More competent kaolinised granite is found in areas of stronger greisen alteration. The granite becomes increasingly competent with depth.

The main mineralisation is of wolframite with arsenopyrite and minor cassiterite. Due to surface weathering by meteoric waters the arsenopyrite has been oxidised and the iron and arsenic remobilised to form scorodite, an iron arsenate mineral, in the upper part of the resource.

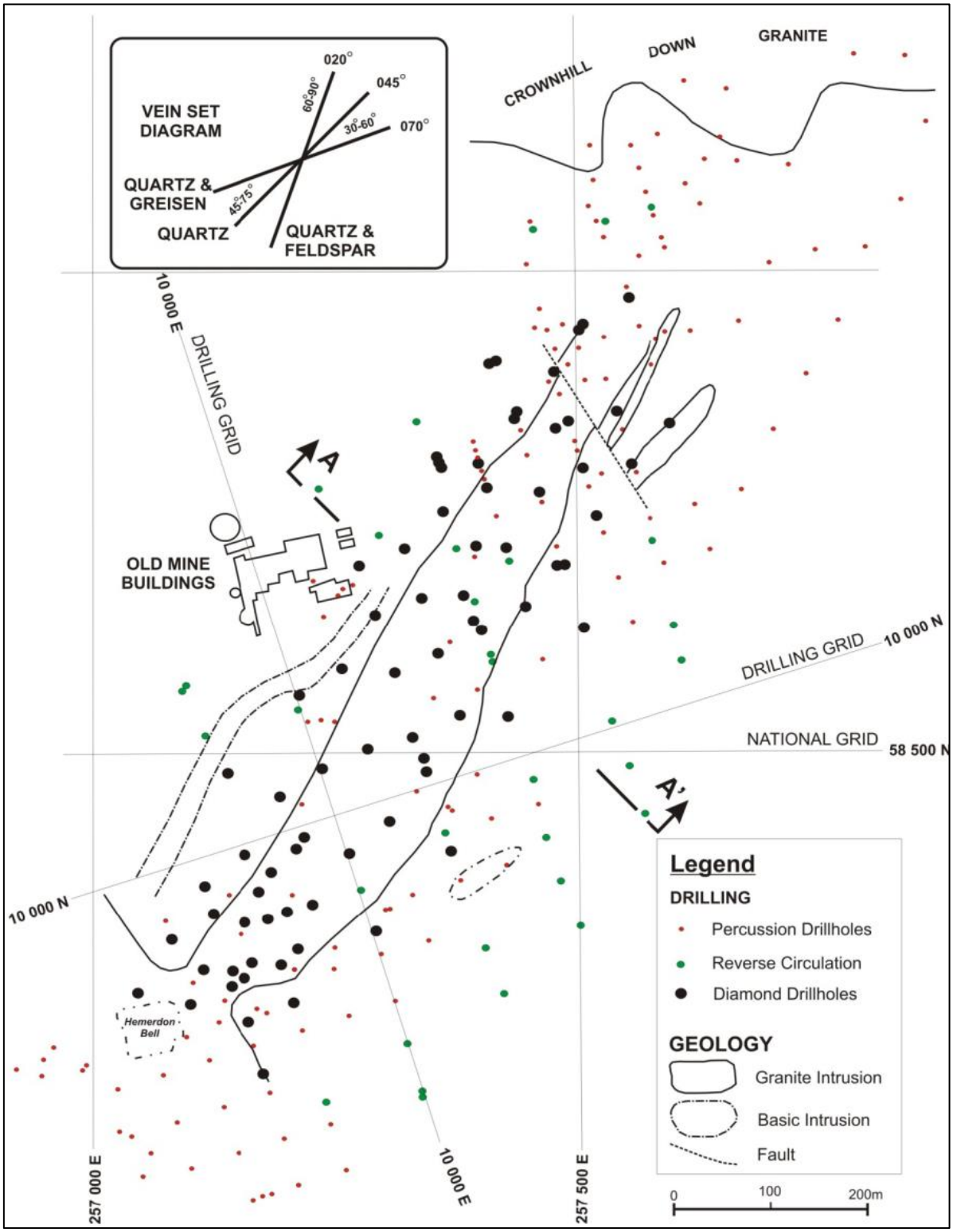
The sheeted vein system, which pervades the Hemerdon granite and carries the tungsten and tin minerals, is characterised by three main vein sets:

- Quartz veins with greisen borders strike 070° and dip from 30° to 60° northwest;
- Quartz veins strike 045° and dip from 45° to 75° northwest; and,
- Quartz-feldspar veins strike 020° and dip from 60° to 90° to the west or east.

The veins vary in width from 0.5 cm to 20 cm and the average thickness is approximately 1.5 cm. Greisen borders are often five to ten times the width of the associated quartz vein.

Figure 4.4 shows the exploration drilling completed by AMAX along with the vein set diagram.

**Figure 4.4: AMAX Exploration Drilling of the Hemerdon Deposit**




Source: Wolf Minerals, 2011

# 5.0 MINERAL RESOURCE ESTIMATE

## 5.1 EXPLORATION HISTORY

The major portion of exploration of the Hemerdon tungsten deposit was conducted by AMAX, which included over 25,400 m of diamond core, reverse circulation (RC) and air-flush percussion drilling over five phases between 1976 and 1981 (Table 5.1). AMAX subsequently produced a feasibility study in 1982.

**Table 5.1: Summary of AMAX Drilling at Hemerdon Project**

| Drilling Method | Total Number of Holes | Metres Drilled (m) |
|---|---|---|
| Percussion | 416 | 8,022 |
| Reverse Circulation | 39 | 3,596 |
| Diamond | 77 | 13,782 |
| **Total** | 532 | 25,400 |

Holes were spaced on a 50 m by 50 m grid pattern orientated perpendicular to the strike of the main mineralised vein-sets and dipping predominantly at -60° to intersect the majority of veining at right angles. The majority of the holes were drilled to a depth of 200 m below surface with two holes drilled to 400 m indicating no change in mineralisation style or tenor. Of the 25,400 m of total AMAX drilling at Hemerdon, 19,696 m are exploration holes in the granite mineralisation and 5,704 m are geotechnical holes or drilling the metasediment mineralisation (see Figure 4.4).

An additional drilling programme was undertaken in 2008 by Wolf Minerals (Figure 5.1), to complement the existing AMAX data. Local drilling contractor Hydrock was engaged to carry out a diamond drilling programme that was completed by the end of September 2008. The objective of the drilling was to increase confidence and understanding of the style and distribution of mineralisation within the deposit. Additional information for geotechnical, hydrogeological and metallurgical analysis was also obtained (Table 5.2).

**Table 5.2: Summary of Wolf Minerals Drilling at Hemerdon Project**

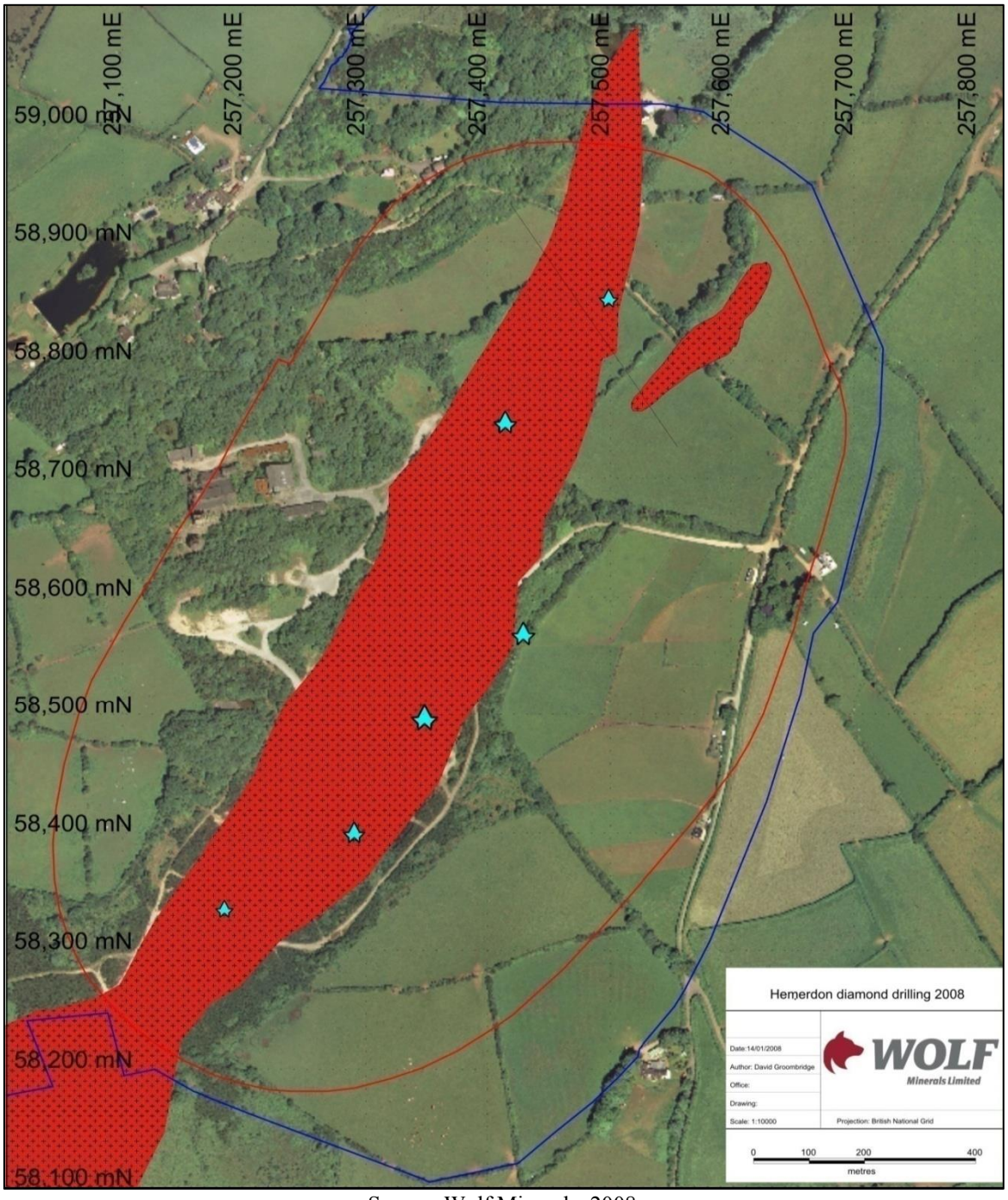
| Drilling Method | Total Number of Holes | Metres Drilled (m) |
|---|---|---|
| Diamond – Confirmation Drilling | 6 | 1,064 |
| Diamond – Geotechnical Drilling | 6 | 1,144 |
| Reverse Circulation – Grade Control Drilling | 953 | 23,306 |

Six diamond drill holes, dipping -60° and orientated perpendicular to the strike of the dominant mineralised vein system were drilled, a total of 1,064 m. The majority of holes targeted the granite – sediment contact and beyond to increase the understanding of the mineralisation at these contacts, and within the sedimentary country rock. Drilling was completed on 100 m spacing.

The Phase 1 Grade Control drilling programme was undertaken between 7th October 2014 and the 27th August 2015. Grade control drill holes were drilled on a 12.5 m by 12.5 m (x, y) grid, and ranged in depth from 10 m to 40 m. The average hole length was 28.31 m. The

grade control drilling tested the upper 60 m of the resource block model. Quality control and quality assurance samples were collected and analysed as part of the grade control sampling in line with recognised best practice.

**Figure 5.1: Plan Map of 2008 Diamond Drilling at Hemerdon**




Source: Wolf Minerals, 2008

## 5.2 SAMPLE PREPARATION, ANALYSIS AND QUALITY CONTROL

The mineral resource estimate for the Hemerdon tungsten deposit is based on 309 drill holes and 4,765 five metre down-hole composites. Only the granite domains are included in the resource estimate, as the metasediments are currently considered uneconomic due to a low process recovery.

The sample preparation and assay methods in the Wolf Minerals 2008 programme are very similar to those implemented in the 1976 to 1981 AMAX programme. In both cases the samples from diamond drill core were assayed in three metre lengths. The core was cut in half, one half retained and the remainder crushed and prepared for assay.

The 1976 to 1981 AMAX programme of sampling and sample preparation procedures were rigorously controlled and were assessed and verified by Professor Michel David, geostatistics consultant to the project.

The Wolf Minerals 2008 assay samples were sent to Stewart Group OMAC Laboratories located in Loughrea, Ireland for X-ray fluorescence analysis. The remaining half core was shipped to Australia for metallurgical test-work. Assays of standards used produced acceptable results and a total of 42 pulp duplicates were taken randomly and re-assayed with XRF and showed repeatability.

Although there is a lack of QA/QC assay data for the historical drilling, it is Micon's opinion that there is a very low risk that the assay data is problematic. The methods used to obtain tungsten and tin analyses were based on standard procedures that are still in use today and the data was vetted by a renowned geostatistician. The analysis of standard reference materials by Wolf Minerals as part of its QA/QC programme demonstrated the variability inherent in tungsten assays and it is likely that the AMAX assays are subject to same degree of analytical error, which overall is considered by Micon to be acceptable. Quality control and quality assurance practices in place for the grade control drilling programme follow best industry practice and confirmed the assay data to be reliable.

## 5.3 MINERAL RESOURCE ESTIMATE

Wolf Minerals appointed SRK Consulting to estimate Hemerdon mineral resources and SRK has utilised state-of-the-art geostatistical methods in developing the current mineral resource model. Micon has reviewed the methodologies employed and has confirmed that the mineral resources estimated for the Hemerdon Granite are probably conservative and appropriate. It is Micon's opinion that the SRK mineral resource model with block size of 25 m by 25 m by 10 m, and block grades interpolated using ordinary kriging, is probably subject to over-smoothing of tungsten grades, but globally it is likely to be accurate within the confidence limits accepted for Measured and Indicated mineral resource estimates. There is potential to improve mill feed grades if a comprehensive grade control programme is rigorously applied. The indication from mining to date is that the grade control programme described above generally yields ore of slightly higher grade than expected from the SRK mineral resource model. This positive trend has been consistent during mining to date but the improvement in grade cannot be confirmed until the plant achieves a steady state of production and a reliable metallurgical balance can be developed.

The JORC Code (2012) defines a mineral resource as follows: "A 'Mineral Resource' is a concentration or occurrence of solid material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction." Due to its refractory nature, there appears, at present, to be no prospect of economic extraction of tungsten and tin mineralisation from the killas. Only Hard and Soft Granite are reported as Hemerdon mineral resources in Table 5.3.

**Table 5.3: Hemerdon Mineral Resources at 1st March 2015 (Micon)**

| Material | Category | Tonnage (Mt) | $WO_3$ (%) | Sn (%) | $WO_3$ (k mtu) | Sn Metal (t) |
|---|---|---|---|---|---|---|
| Hard Granite | Measured | 34.5 | 0.17 | 0.02 | 5,865 | 6,900 |
| | Indicated | 17.3 | 0.16 | 0.02 | 2,768 | 3,460 |
| | Measured + Indicated | 51.8 | 0.17 | 0.02 | 8,806 | 10,360 |
| | Inferred | 86.1 | 0.14 | 0.02 | 12,054 | 17,220 |
| Soft Granite | Measured | 5.4 | 0.19 | 0.03 | 1,026 | 1,620 |
| | Indicated | 1.4 | 0.18 | 0.03 | 252 | 420 |
| | Measured + Indicated | 6.8 | 0.19 | 0.03 | 1,292 | 2,040 |
| | Inferred | 0.5 | 0.13 | 0.03 | 65 | 150 |
| **Total** | **Measured** | **39.9** | **0.18** | **0.02** | **7,182** | **7,980** |
| | **Indicated** | **18.7** | **0.16** | **0.02** | **2,992** | **3,740** |
| | **Measured + Indicated** | **58.6** | **0.17** | **0.02** | **9,962** | **11,720** |
| | **Inferred** | **86.6** | **0.14** | **0.02** | **12,124** | **17,320** |

The tungsten mineral resources presented in Table 5.3 are based on Uniform Conditioning and a cut-off grade of 0.063% W. Ordinary kriging was used to interpolate Sn grades. Hemerdon mineral resources are provided in the SRK Project Memo dated 23rd March 2015.

In the DFS Wolf Minerals declared JORC Code mineral resources for the killas mineralisation. Measured mineral resources at a 0.05% W cut-off grade were reported to be 47.47 Mt at a grade of 0.079% W and 0.02% Sn. Indicated mineral resources were reported to be 26.29 Mt at a grade of 0.072% W and 0.02% Sn. A further 203.26 Mt at a grade of 0.087% W and 0.02% Sn were reported to be Inferred mineral resources. The DFS also reports that metallurgical recovery for killas is estimated to be ~4% for tungsten and ~10% for tin. At this point in time the killas mineralisation fails to demonstrate "reasonable prospects for eventual economic extraction" as required for mineral resources as defined by the JORC Code (2012). It therefore exists as tungsten-tin mineralisation that may be converted to a resource in future if appropriate tungsten and tin recovery flowsheets can be developed.

# 6.0 MINING

## 6.1 ORE RESERVES

The Model is based on the mineral reserve from the pit optimisation study that was conducted at the beginning of 2015.

The total Proven and Probable ore reserve is 35.7 Mt at a grade of 0.14% W and 0.03% Sn. Hard Granite comprises 30.4 Mt of the mining ore reserve, the balance is Soft Granite. The cut-off grade used was 0.05% W. A total of 60.5 Mt of waste is associated with the ore, giving an overall waste to ore strip ratio of 1.7 to 1.

The Hemerdon ore reserves are defined at a cut-off grade of 0.05% W or 0.063% $WO_3$, excluding tin credits. Tungsten concentrates are normally sold in metric tonne units (mtu) comprising 10 kg of $WO_3$. Wolf Minerals has assumed that the price received for tungsten in concentrates will be at a discount to the prevailing APT price. A summary of the Ore Reserves are shown in Table 6.1.

**Table 6.1: Ore Reserves as at 25th March 2015**
**(Cut-Off Grade 0.063% $WO_3$ or 0.05% W)**

| Classification | Units | Hard Granite | Soft Granite | Total |
|---|---|---|---|---|
| **Proven** | Mt | 23.6 | 4.3 | 27.9 |
| | $WO_3$% | 0.18 | 0.20 | 0.19 |
| | W% | 0.143 | 0.159 | 0.151 |
| | Sn% | 0.03 | 0.03 | 0.03 |
| | $WO_3$ k mtu | 4,248 | 860 | 5,108 |
| | Sn t | 7,080 | 1,290 | 8,370 |
| **Probable** | Mt | 6.8 | 1.0 | 7.8 |
| | $WO_3$% | 0.15 | 0.15 | 0.15 |
| | W% | 0.119 | 0.119 | 0.119 |
| | Sn% | 0.02 | 0.03 | 0.02 |
| | $WO_3$ k mtu | 1,020 | 150 | 1,170 |
| | Sn t | 1,360 | 300 | 1,660 |
| **Total** | **Mt** | 30.4 | 5.3 | 35.7 |
| | $WO_3$% | **0.18** | 0.19 | 0.18 |
| | W% | **0.143** | 0.151 | 0.143 |
| | Sn% | 0.02 | 0.03 | 0.03 |
| | $WO_3$ k mtu | 5,268 | 1,010 | 6,278 |
| | Sn t | 8,440 | 1,590 | 10,030 |

## 6.2 MINE PRODUCTION

The Drakelands mine production rate has been set at approximately 3 Mt of ore per annum, based on a three shift cycle for seven days per week on a trial basis until 31st March 2016 and returning to 5.5 days a week after that. The planned mine life is 13 years and a summary of the production schedule is shown in Table 6.2. The 3 Mt per annum lasts for another 11 years and then drops away in the final year due to mine exhaustion. The waste schedule shows a level of 3.4 Mt per annum in 2016, increasing to a peak of 15.0 Mt in 2019 then decreasing and tapering off in the final three years.

**Table 6.2: Drakelands Mining Schedule**

| Year Ending | Unit | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hard Granite Ore** | t | 302,328 | 1,200,455 | 2,116,771 | 2,067,825 | 2,407,383 | 2,999,288 | 3,001,289 | 3,001,499 | 3,002,203 | 3,001,179 | 2,890,825 | 547,352 | 26,538,397 |
| Tungsten grade | W% | 0.19 | 0.16 | 0.14 | 0.14 | 0.13 | 0.13 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.16 | 0.14 |
| Tin grade | Sn % | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Contained tungsten | W t | 580 | 1,924 | 3,014 | 2,971 | 3,206 | 4,002 | 4,218 | 4,511 | 4,494 | 4,396 | 4,012 | 871 | 38,199 |
| Contained tin | Sn t | 89 | 284 | 547 | 632 | 637 | 825 | 728 | 621 | 556 | 573 | 568 | 97 | 6,157 |
| | | | | | | | | | | | | | | |
| **Soft Granite Ore** | t | 2,773,696 | 1,800,624 | 885,537 | 934,386 | 595,003 | 2,534 | - | - | - | | | | 6,991,780 |
| Tungsten grade | W% | 0.18 | 0.16 | 0.15 | 0.13 | 0.14 | 0.14 | - | - | - | | | | 0.16 |
| Tin grade | Sn % | 0.03 | 0.04 | 0.03 | 0.03 | 0.04 | 0.06 | - | - | - | | | | 0.03 |
| Contained tungsten | W t | 4,886 | 2,839 | 1,363 | 1,183 | 825 | 3 | - | - | - | | | | 11,100 |
| Contained tin | Sn t | 913 | 633 | 289 | 244 | 212 | 2 | - | - | - | | | | 2,293 |
| | | | | | | | | | | | | | | |
| **Ore mined** | t | 3,076,024 | 3,001,079 | 3,002,308 | 3,002,212 | 3,002,386 | 3,001,823 | 3,001,289 | 3,001,499 | 3,002,203 | 3,001,179 | 2,890,825 | 547,352 | 33,530,179 |
| Tungsten grade | W% | 0.18 | 0.16 | 0.15 | 0.14 | 0.13 | 0.13 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.16 | 0.15 |
| Tin grade | Sn % | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| Contained tungsten | W t | 5,466 | 4,784 | 4,408 | 4,257 | 4,052 | 4,008 | 4,233 | 4,541 | 4,512 | 4,397 | 4,039 | 876 | 49,573 |
| Contained tin | Sn t | 1,010 | 924 | 850 | 851 | 833 | 829 | 734 | 621 | 552 | 574 | 570 | 97 | 8,445 |
| | | | | | | | | | | | | | | |
| **Total Waste** | t | 3,412,159 | 4,841,251 | 6,840,583 | 15,375,990 | 12,323,299 | 5,774,352 | 3,756,658 | 2,606,080 | 1,710,450 | 783,752 | 547,857 | 56,579 | 58,029,010 |
| **Strip Ratio** | | 1.11 | 1.61 | 2.28 | 5.12 | 4.10 | 1.92 | 1.25 | 0.87 | 0.57 | 0.26 | 0.19 | 0.10 | 1.73 |

The overall tungsten and tin grades remain relatively consistent throughout the mine life. The only grade trend that can be reached, from the mining schedule, is that the higher grade material will be mined early in the mine life, but the grades during the middle and end periods are not far below the peaks.

Waste from pre-production was used to construct the starter wall for the tailings storage facility, haul roads and the ROM pad. A total of 60 Mt of waste will be mined during the mine life, some of which will be used to complete the remainder of the tailings encapsulation and the remaining waste will be transported to a waste dump.

Mining contractors are engaged to perform all mine operations, providing more flexibility, lower capital cost and reducing some of the administration burden. The mining contractor was also utilised for the construction earthworks.

The mining contractor has supplied a smaller mining fleet for the pre-production and Phase 1 production period consisting of 70 t backhoe excavators, 40 t articulated dump trucks and ancillary equipment. These will be replaced with a larger fleet for mining during the Phase 2 production period. Mining will be carried out with a standard drill and blast method on 5 m benches. The load/haul equipment fleet to be used by the contractors will be 120 t backhoe excavators and 40 t articulated dump trucks and 100 t off road haul trucks. It is expected that 70% of run of mine ore will be hauled directly to the crusher with the remaining 30% re-handled through a stockpile.

**Micon Comment**

Micon believes that the arrangements for mining are reasonable and production rates can be achieved on an on-going basis once initial production rates have been achieved. Wolf Minerals has applied for an extension of the seven days per week production trial so that an assessment can be made whilst operating during the drier months of the year.

## 6.3 MINING COSTS

### 6.3.1 Mining Services Contract

The Mining Services Contract (MSC) entered into on the 1st July 2013 with C A Blackwell (Contracts) Ltd is based on "Model Mining Services Contract Approved Version 3" developed by the Board of AMPLA Ltd. Amendments have been made to anglicise the document, additional clauses over and above those recommended in the model have been included.

The scope of work was split into two phases:

- Phase 1: Start-up, stripping, roads, starter dam; and,
- Phase 2: On-going mine production.

Payment is based upon lump sum mobilisation and demobilisation fees, monthly management fees, and schedules of rates. The schedules of rates are the subject of a Rise and Fall Adjustment clause, and account for proportions of labour, fuel, consumables, explosives, spare parts, and a fixed component.

The base date of the adjustment formula is 31st December 2012, and the base cost of fuel is £0.77 per litre.

Adjustments are made in accordance with an agreed formula based upon the UK Building Cost Adjustment Formulae Indices (Civil Engineering Series) published by the UK Cost Information Services (BCIS) by the Royal Institution of Chartered Surveyors (RICS).

The following table indicates the change in the indices to November 2015. The Rise and Fall Indices for the contract mining is displayed in Tables 6.3 and 6.4.

**Table 6.3: Mining Rise and Fall Indices**

| Index | Base Date | January 14 | January 15 | August 15 | November 15 |
|---|---|---|---|---|---|
| MO | 1312 | | | | |
| M1 | | 1327 | 1339 | 1349 | *1356* |
| LO | 1938 | | | | |
| L1 | | 1972 | 2018 | 2099 | *2099* |
| PO | 1312 | | | | |
| P1 | | 1327 | 1339 | 1349 | *1356* |
| TO | 1312 | | | | |
| T1 | | 1327 | 1339 | 1349 | *1356* |
| FO | 8662 | | | | |
| F1 | | 7578 | 5014 | 4802 | *4759* |

Note: Provisional Indices in Italics

**Table 6.4: Adjustment to Mining Rates for Rise and Fall Indices**

| Month | Rev Indices | Reduction (%) |
|---|---|---|
| Oct 2013 | 97.55 | 2.45 |
| Jun 2014 | 98.33 | 1.67 |
| Sep 2014 | 96.22 | 3.78 |
| Oct 2014 | 94.95 | 5.05 |
| Nov 2014 | 94.29 | 5.71 |
| Dec 2014 | 91.37 | 8.63 |
| Jan 2015 | 89.22 | 10.78 |
| Feb 2015 | 90.58 | 9.42 |
| Mar 2015 | 90.76 | 9.24 |
| Apr 2015 | 91.21 | 8.79 |
| May 2015 | 91.94 | 8.06 |
| Jun 2015 | 91.23 | 8.77 |
| Jul 2015 | 91.62 | 8.38 |
| Aug 2015 | 90.14 | 9.86 |
| *Sep 2015* | *89.63* | *10.37* |
| *Oct 2015* | *90.17* | *9.83* |
| *Nov 2015* | *89.90* | *10.10* |

Note: Provisional Indices in Italics

Using the revised November 2015 indices results in a multiplier of 0.899, indicating a reduction of just over 10% to the schedule rates is applicable for November 2015. The reduction in fuel cost since the base date of 31st December 2012 is the main contributing factor. Fuel indices have revised from 8662 in December 2012 to 4838 in October 2015.

All construction works under Phase 1 have been completed and ore production mining is underway. The quoted rates for Phase 2 works allowed for the amortisation of new mining equipment over the Phase 2 period of the MSC. Agreement has been reached whereby the delivery of the new mining equipment will be delayed from 8th August 2015 until 1st April 2016 with a commensurate extension of the Phase 1 period and its associated lower mining rates. The 60 month Phase 2 mining period will be maintained to allow for the planned amortisation of the new mining equipment. On delivery of the new mining equipment an Early Termination amount of £3.5 million reducing to zero after 60 months is applicable. Any Early Termination of the MSC is entirely at Wolf's discretion.

The MSC contains a clause whereby all historic (1 year) payment claims are required to be resolved; all claims that fall into this category have been identified and agreed. Wolf has accounted for the anticipated final settlement.

The MSC includes an allowance for drilling and blasting during Phase 2 operations. The contract specifies a maximum amount to be charged by the contractor for these works together with a clause to identify cost savings when the drill and blast subcontractor is engaged. Any savings realised are to be split equally between Wolf Minerals and the contractor. The contractor is currently preparing to commence blasting operations in January 2016. The final achieved drill and blast rates are the subject of a specified price rise and fall adjustment formula and a suitable explosive price index is to be agreed between the parties. The drill and blast rates contained within the Model reflect the maximum amounts to be charged by the contractor without any adjustment.

The blasting rates in the Model have utilised three of the rates contained within the MSC (Table 6.5).

**Table 6.5: Blasting Rates**

| MSC Original Unit Rate (£) | Unit Rates Used (£) |
|---|---|
| 0.50 | 0.50 |
| 0.65 | Not used |
| 0.85 | 0.85 |
| 1.22 | Not used |
| 1.40 | 1.40 |

### 6.3.2 Mining Cost Assumptions

The fixed and variable mining cost assumptions used in the Model are shown in Tables 6.6, 6.7 and 6.8. The information in these tables has been sourced from the Blackwell Price Schedule for Phase 1 and 2 of the MSC.

**Table 6.6: Fixed Monthly Management Charge**

| Period | Cost (£) |
|---|---|
| Phase 1 | 40,566 |
| Phase 2 - Year 1 (2016) | 70,583 |
| Phase 2 - Year 2 (2017) | 68,013 |
| Phase 2 - Year 3 (2018) | 68,000 |
| Phase 2 - Year 4 (2019) onwards | 65,916 |

**Table 6.7: Annual Dewatering Allowance**

| Period | Cost (£) |
|---|---|
| Pre-Production | 0 |
| Year 1 | 48,000 |
| Year 2 | 60,000 |
| Year 3 | 72,000 |
| Year 4 | 96,000 |
| Year 5 | 120,000 |
| Year 6 | 120,000 |
| Year 7 | 144,000 |
| Year 8 | 168,000 |
| Year 9 | 192,000 |

**Table 6.8: Variable Re-Handling Costs**

| Category | Cost per Tonne Milled (£/t) |
|---|---|
| Ore Re-handle (1-100 m) | 0.50 |
| Ore Re-handle (100-200 m) | 0.75 |
| Ore Re-handle determination | 0.15 |

## Micon Comment

Micon has reviewed the mining assumptions and finds the Dewatering Allowance and Re-handling Costs to be appropriate. The Fixed Monthly Management Charge for Phase 1 and 2 in the Model differs to the Blackwell Price Schedules. Micon understands that Wolf Minerals and Blackwell have agreed to omit the Infrastructure Management (septic) item from the Monthly Management Fee schedule for Phase 2. Micon further understands that the agreed prices for Phase 1 have been updated in the Model. Micon has not reviewed any document confirming the adjustment.

The reduction in mining rates applicable to the rise and fall adjustment clause have not been allowed for or projected in the Model.

Micon has been unable to determine the agreed and finalised rates applicable to the drill and blast elements of the MSC, but can confirm that three of the maximum rates have been adopted in the Model.

On 11th January 2016, Hargreaves Services Plc announced the acquisition of C A Blackwell Group Limited. Hargreaves is a public company traded on UK AIM market (HSP.L) with some 2,300 employees and an annual turnover in excess of £660 million. The main areas of business are; services provider to the energy, waste, steel and transport sectors, coal importation into the UK, importation of coke and minerals into Europe, and bulk haulage transport.

### 6.3.3 Operating Costs

Operating costs will be £185.2 million over the remaining life of the Drakelands mine at a unit cost of £2.02 per tonne of total material moved. The operating costs consist of Variable and Fixed mining costs. The Fixed Costs are divided into Direct Fixed Mining Costs and Dewatering Allowance.

The Variable Costs embraces all the costs that are susceptible variable unit costs depending on ore and waste movement, the working bench in the pit, ore re-handling distance and rejects.

**Micon Comment**

Micon has reviewed the operating costs and consider them to be sound. Micon has noted that Phase 1 has been extended to the end of March 2016 and the Phase 2 rates are scheduled to commence on the 1st April 2016.

Prior to 31st December 2015, all ground breaking activity has been performed by ripping and a flat rate of £1.25 per bcm has been applied. From January 2016, drilling and blasting will commence; the Model costs are based on the Phase 2 drill and blast rates from the MSC.

### 6.3.4 Sustaining Capital Costs

The Model includes £6.1 million allocated to sustaining capital costs over the remaining life of the mine, relating to further development of the Mining Waste Facility.

**Micon Comment**

Micon has examined the sustaining capital costs and considers them to be appropriate.

### 6.3.5 Conclusions

Micon considers the mining to be robust and any discrepancies unlikely to have a material impact on the project economics.

# 7.0 MINERAL PROCESSING AND METALLURGICAL TESTING

## 7.1 GRES EPC CONTRACT

The process plant design, construction and commissioning was awarded to GR Engineering Services (UK) Limited (GRES) of Western Australia, an engineering, consulting and contracting company specialising in fixed price engineering design and construction services to the resources and mineral industry.

The basis of the contract entered into on 5th March 2013 between Wolf Minerals Ltd (Wolf Minerals) and GR Engineering Services (UK) Limited is essentially the FIDIC Conditions of Contract for EPC Turnkey Projects "Silver Book" with some minor amendments.

The full contract price of GB £75,455,448 comprising a fixed amount of GB £72,051,169 and a provisional sum of GB £3,404,280 is composed of amounts in different currencies as indicated:

| | |
|---|---|
| Fixed amount | GB £57,722,813 |
| | AU $19,539,688 at exchange rate of GB £1= AU $1.609 |
| | US $3,511,470 at exchange rate of GB £1 = US $1.608 |
| Total | GB £72,051,169 |

Provisional Sum plus margin

| | |
|---|---|
| | GB £3,217,288 |
| | AU $300,857 at exchange rate of GB £1 = AU $1.609 |
| Total | GB £3,404,280 |

After contract signature, design of the process facility continued, together with formal planning and environmental permitting by Wolf Minerals. The permitting process revealed project constraint information not previously known by Wolf Minerals or GRES. As a result of this, and to ensure relevant approved permit conditions were fully satisfied, some sections of the process plant were the subject of a redesign and redefinition. The resulting amendments to the design were completed and incorporated into the finalised design.

These amendments and construction changes resulted in a final EPC cost of GB £84.3 million.

Two payless notices have been issued by Wolf under the contract; these sums have not been credited into the final EPC cost and are available pending final resolution.

The plant takeover occurred in September 2015 and the defects liability period ends in September 2016. GRES remains on site assisting Wolf Minerals with the ramp up activities and attending the remedial actions at their cost, where required.

### 7.1.1 Micon Comment

The final costs for the EPC contract have been used in the Model.

Micon is not aware of any outstanding counter claim associated with this contract.

The monetary value and responsibility for any remedial measures will be determined over the defects period. Micon is not aware of any allowances in the Model for Wolf Minerals to bear the cost of any works.

## 7.2 METALLURGICAL TESTING

### 7.2.1 AMAX Testwork

In 1982, AMAX conducted an extensive evaluation of the Hemerdon Project that included both laboratory and pilot plant testwork and a feasibility study was completed.

AMAX drilled eight metallurgical holes through soft and into hard ore. These were split into the "soft" and "hard" domains and tested individually as well as composited. The metallurgical holes were all within the pit outline and were spread fairly evenly across the area. AMAX also sunk a decline into the ore body and processed over 7,000 tonnes of ore through a pilot plant.

The pilot plant campaign achieved recoveries for $WO_3$ and Sn of approximately 64% and 66% respectively, at a head grade of approximately 0.19% $WO_3$ and produced tungsten concentrate grading 65% $WO_3$ using only gravity and magnetic separation techniques.

It was concluded that there were two primary mineralogical domains, classified as Soft Granite and Hard Granite respectively, and that separate saleable tungsten and tin concentrates could be produced using conventional gravity processing. The study concluded that $WO_3$ recovery for soft and hard ore was 58% and 65% respectively to a 65% $WO_3$ concentrate. Equivalent tin recovery was 68% and 64% respectively to a 25% Sn concentrate.

The Soft Granite tended to be near-surface, clayey and kaolinised material whereas the Hard Granite was more competent ore from deeper sections of the deposit.

Wolframite, $(Fe,Mn)WO_4$ and cassiterite, $SnO_2$ are the two minerals of economic importance at Hemerdon.

### 7.2.2 Wolf Minerals Feasibility Study Testwork

Wolf Minerals prepared a Definitive Feasibility Study Report (DFS) in May 2011 and engaged GR Engineering Services (GRES) to undertake metallurgical studies and process design, all of which was supervised by Coffey Mining.

Wolf Minerals drilled a further six diamond drill holes in 2008. Initial metallurgical testwork by Ausenco and GRES failed to replicate the AMAX results. Although Ausenco largely used the old AMAX drill core for gravity work, the poorer results were attributed to both Ausenco and GRES using a significantly finer desliming cut size than the AMAX work and also the use of non-optimal gravity test equipment.

As a result of an overall review of the testwork conducted to-date, a further testwork programme was developed by Coffey and GRES, which was completed at Ammtec laboratories in Perth, Australia, referred to as the "Post Review Testwork (PRT)" programme. This programme utilised four of the remaining 2008 drill hole samples, a Soft Granite and a

Hard Granite composite sample being produced, to validate, confirm and complete the testwork programme undertaken by AMAX, as well as the appropriate components of the GRES programme.

The results of the PRT work confirmed and replicated the tungsten recoveries achieved by AMAX with tungsten recovery of 58% from Soft Granite and 66% from Hard Granite at concentrate grades of 62% $WO_3$ and 67% $WO_3$ respectively. Tin recovery from Soft and Hard Granite was 65% and 55% respectively with concentrate grades of 39% Sn and 21% Sn.

### 7.2.3 Reduction Roasting

The AMAX pilot plant flowsheet did not include reduction roasting or reverse flotation.

However, tighter environmental regulations on arsenic levels make arsenic flotation mandatory, whilst the reduction (magnetising) roast stage was included to ensure that the target concentrate grade of 65% $WO_3$ is consistently achieved. This is because, in certain areas of the deposit, variances in hematite mineralogy may cause magnetic separation problems and use of a reduction roast to convert the variable types of hematite to magnetite allows the magnetite to be removed using LIMS.

Therefore, subsequent to the DFS, additional testwork was performed by Independent Metallurgical Operations Pty Ltd. (IMO) in Perth, Australia under GRES supervision. This work confirmed design parameters for the reduction kiln and the whole concentrate upgrade circuit, including further studies on tin concentrate optimisation.

## 7.3 PLANT DESIGN

The plant design incorporates three stages of comminution, gravity pre-concentration with fine and coarse circuits, and final concentrate upgrading to produce separate tungsten and tin concentrates.

After initial crushing, scrubbing and screening to reduce run of mine ore to minus 9 mm, the ore is then split into two streams. A deslimed fines stream at minus 0.5 mm + 63 µm is upgraded using conventional spirals and shaking tables to produce a fine concentrate whilst a coarse stream at minus 9 mm + 0.5 mm is upgraded using three stages of dense medium separation (DMS) with regrinding and screening for production of a coarse concentrate. The original AMAX flowsheet proposed only a single primary DMS stage followed by jigs for the coarse stream.

The concentrate upgrade circuit treats the combined fine and coarse concentrates and includes regrinding, reverse flotation, drying and reduction roasting, low intensity magnetic separation (LIMS) to remove the converted magnetite, high intensity magnetic separation (HIMS) to produce a blended final tungsten concentrate and a tin upgrade circuit for the non-magnetic fraction (tabling and drying) to produce a final tin concentrate. After LIMS, the product is screened at 150 µm into coarse and fine streams which are processed separately in the HIMS circuit.

Three final tailings streams are generated viz. the hydrocyclone deslime overflow, the spiral tails and the primary DMS tails. The primary DMS tails are transported to the Waste Stockpile whilst the hydrocyclone deslime overflow and spiral tails are pumped to the

dedicated Mining Waste Facility (MWF). This will have a total design capacity of 16.8 Mt of fine tailings for a life of up to 12 years at design production rates.

Water for the processing plant will be sourced from four areas in order of preference, namely recovered water from the MWF, pit water, the run-off collection and storage ponds and the Loughter Mill pumping station at Tory Brook. Additional water is available as required at cost from South West Water. The main surface water catchment and storage ponds are the Tory Pond and two Smallhanger ponds. Water from Loughter Mill pump station is pumped as required to the Tory Pond via a 1.5 mile long pipeline. Each catchment and storage pond has a dedicated pump station for pumping process water to the plant.

Design plant throughput is 3 Mt/a of run of mine ore and is based on five and half days' operation each week to conform to the approved planning permission aimed at minimising the impact of noise on the local community. Primary crushing is not permitted between 18:00 hours on Saturdays and 06:00 hours on Mondays and 22:00 hours on the day preceding a public holiday and the next ordinary day. However, Wolf Minerals is currently trialling a seven-day operating schedule which, if successful, would increase annual throughput and concentrate production and allow for more efficient plant operation (less disruption and metal loss during stop/start operations).

## 7.4 PRODUCTION SCHEDULE

Table 7.1 summarises the production schedule for the plant over the life of mine (LOM).

**Table 7.1: Summary of Production Schedule**

| Parameter | Units | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tonnage Processed | t | 3,119,220 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 2,938,716 | 576,203 | **33,634,139** |
| Grade Processed $WO_3$ | $WO_3$ % | 0.22 | 0.20 | 0.18 | 0.17 | 0.17 | 0.17 | 0.18 | 0.19 | 0.19 | 0.19 | 0.17 | 0.20 | **0.19** |
| Contained Tungsten $WO_3$ | mtu | 402,004 | 365,837 | 349,448 | 331,894 | 324,666 | 331,180 | 348,172 | 373,805 | 372,247 | 364,697 | 337,785 | 75,695 | **3,977,431** |
| Grade Processed Sn | Sn % | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.02% | 0.02% | 0.02% | 0.02% | 0.02% | 0.02% | **0.03** |
| Contained Tin Metal | t | 628 | 570 | 494 | 503 | 491 | 455 | 403 | 343 | 308 | 313 | 319 | 56 | **4,883** |

The following comments are pertinent:

1. A total of 33.6 million tonnes of ore will be processed over the remaining mine life at average head grades of 0.19% $WO_3$ and 0.03% Sn. These numbers agree with the stated JORC Code ore reserves. The reserves were significantly increased by Wolf Minerals in 2015 due to re-optimisation of the pit using steeper pit slopes following geotechnical investigations. This has resulted in increased production and mine life.
2. The Soft Ore is processed only during the first seven years of operation.
3. The latest Model reflects the current ramp up schedule. Consistent design throughput of 250,000 t/month is scheduled for mid-2016 onwards.
4. The recoveries and concentrate grades used in the Model are generally in agreement with the GRES design numbers, although tungsten recovery for soft granite is lower to reflect the current ramp up period. Micon has reviewed extensive additional testwork undertaken by Wolf Minerals and concluded that a 40% Sn concentrate grade should be achievable.

### 7.4.1 Capital Costs

The original capital cost for the plant included under the fixed cost EPC contract with GRES was £75.5 million. However, the numbers used in the latest Model reflect actual costs incurred together with the forecast for the remaining expenditures. The total Estimate At Completion capital cost and GRES components of this cost have been regularly reviewed by Micon in its role as Independent Engineers for the Senior Lenders and are therefore considered reasonable.

### 7.4.2 Operating Costs

The total process operating cost used in the Model for the LOM is £4.07 per tonne ROM input and includes both fixed and variable cost components.

Micon considers the revised plant operating costs as used in the Model to be reasonable.

### 7.4.3 Off-Take Agreements

Off-Take Agreements are signed with Austrian-based Wolfram Bergbau und Hutten AG (WBH) and US-based Global Tungsten & Powders Corp (GTP). Under the terms agreed, Wolf Minerals will supply 80% of the Hemerdon Project's annual $WO_3$ concentrate output for 5 years.

An Off-Take Agreement for tin concentrates is signed with Traxys for 100% of the Hemerdon Project's output.

## 7.5 RISKS AND OPPORTUNITIES

The plant is fully operational under Wolf Minerals' ownership and has demonstrated that saleable tungsten concentrates can be produced and sold.

The key process requirement is for stable plant operation to allow a steady ramp up of throughput to design and full evaluation of the metallurgical performance. Production has

been assisted by the 7-day trial, although overall plant operation is still to reach design throughput.

Metallurgical priority is on increasing the overall tungsten recovery in ramp up, with input from GRES and other independent consultants, whilst also minimising the impact of any deleterious elements.

Once the plant is performing to design, there is opportunity to reduce tungsten slimes losses using specialised gravity separation equipment and should be investigated via metallurgical testwork in due course.

There may be a risk of increases in operating cost depending on any remedial measures identified during ramp up that may be required to improve current plant performance.
Wolf Minerals has the benefit of significant GRES input and from other independent consultants as required to assist with ramp up of the plant. Micon considers that, at this stage, there are no apparent fatal flaws in the process design, but does not discount that some process modifications may be required pending performance reviews in ramp up, which could impact production in the early stages of 2016.

# 8.0 ENVIRONMENTAL CONSIDERATIONS

## 8.1 ENVIRONMENTAL AND SOCIO-ECONOMIC CONTEXT

The Hemerdon project is located in a largely rural setting close to the southern boundary of the Dartmoor National Park; the traditional land-use is agriculture with a pattern of small pastures separated by high hedgerows giving the area a distinctive landscape. Some aspects of this traditional land-use remain although the area has seen considerable development with extensive china clay workings to the north. The port city and naval base of Plymouth lies seven miles to the south-west.

Much of the area of the current land occupied by the project was essentially a brownfield site prior to the recent construction. The Hemerdon tungsten deposit had been worked twice historically and mine workings, buildings and associated infrastructure, predominantly from the 1940s, remained together with some pilot facilities developed in the 1970s and 1980s. Historically, there were also extensive tin workings in the area (mostly dating from the 18$^{th}$ century) and some evidence of these workings remains, mostly in the form of old shafts and disturbed ground.

Although primarily a rural location, agriculture is only a part of the local economy; mining (principally china clay and ball clay) has also played a major role for many years, although employment levels are declining. Being close to the National Park, tourism makes a significant contribution to the regional economy with the nearby city of Plymouth exerting a strong financial influence on the region. The gradual decline in the importance of agriculture and clay mining to the economy, combined with more recent reductions in the employment at the nearby Devonport naval base, have resulted in a number of initiatives to broaden and develop the economic basis of the region. Development of tungsten mining is one of these initiatives and Micon advises that, as far as can be ascertained, there has been a significant degree of support for the project during its construction and early operation (arising from the predicted economic benefits), although as with all locations of this type, support is not universal.

Prior to construction, extensive baseline surveys were undertaken, the key findings of which were that:

- Air quality was generally good;
- Noise and vibration levels were low;
- Surface watercourses were being adversely impacted by elevated suspended solids in water draining from the china clay workings;
- Locally elevated concentrations of some trace elements in soils, groundwaters and sediments, notably arsenic, are associated with the natural geochemical footprint of the area enhanced by the consequences of historic metal mining;
- The ecological status of the site was moderate: plant, butterfly, dragonfly, reptile, bird and mammal species are typical of the area; some protected species were present and special measures were needed to minimise the impact on these species; and,
- Some items of archaeological interest were present and extensive archaeological investigation was required prior to construction.

## 8.2 PERMITTING

### 8.2.1 Planning Permissions

The primary control over the development of mineral workings in England is exercised by the Mineral Planning Authority (in this instance Devon County Council) through granting of Planning Permission. A number of other organisations and interested parties are consultees during this process. Following a lengthy submission process culminating in a public inquiry, Planning Permission (N$^{o}$9/42/49/0542/85/3) was granted in 1986 to the previous owner of the project (*AMAX Exploration of U.K. Inc.*) but the project never progressed to construction due to the metal prices prevailing at that time.

In consultation with the planning authorities, Wolf Minerals accepted a voluntary updating of the conditions associated with the original Planning Permission to reflect changes in environmental standards and good practice, which was formalised by the Mineral Planning Authority issuing a Modification Order in January 2011. This Modification Order combined with the 1986 Planning Permission remains the principal regulatory control on the current operations, although Wolf Minerals has subsequently lodged a number of applications to modify key conditions attached to the original Planning Permission. These have included:

- A Modification Order for the inclusion of a Reduction Kiln that was not part of the project as described in the original Planning Permission; this was approved in March 2014;
- Changes to the dimensions of the Process Plant, which were approved through Article 30 (Determination of Conditions) Planning Permissions in April 2014;
- An agreement to vary a condition of the Planning Permission to allow operation of the Primary Crusher (and therefore the whole process plant) on a 7-day a week basis for a six month trial period was issued in March 2015; and,
- An application to extend the life of the mine beyond the 2021 deadline currently stated in the original Planning Permission was lodged in December 2015 and is currently awaiting determination.

In addition to the main Planning Permission itself and in accordance with normal practice, Wolf Minerals entered into a legally binding agreement (known as a "Section 52 agreement"), which required the developer (Wolf Minerals) and other parties (such as landowners) to undertake a series of actions prior to the development proceeding. This agreement covered issues such as property purchase, development of site restoration plans, tree planting schemes, transport management etc.

Subsequent to the Planning Permission and Section 52 agreement, Wolf Minerals has acquired a series of "secondary" permits covering issues such as mine waste management, water abstraction, impoundment and discharge, closure of rights of way, disturbance of protected animal and plant species etc. These are issued by various governmental agencies, principally the Environment Agency but also including agencies such as Natural England. These secondary permits are aimed at ensuring detailed aspects of the operation comply with specific regulatory requirements.

The key permits include:

### 8.2.2 Mining Waste Facility Permit

This permit from the Environment Agency is required under the conditions of the E.U. Mining Waste Directive and involves the classification of the facility according to a number of risk-based criteria and development and implementation of a number of management practices within the framework of an agreed Waste Management Plan. Permit N$^{o}$. EPR/FB3639RK was issued in December 2013.

### 8.2.3 Surface Water Abstraction and Impoundment Licences and Discharge Consents

Wolf Minerals had received the necessary consents from the Environment Agency for abstraction from surface waters and discharge into surface waters by December 2013.

### 8.2.4 Land Drainage Consents (sometimes known as Flood Defence Consents)

Land Drainage Consents are required from the Environment Agency before any work can be carried out "in, over, under or adjacent to" a watercourse. A series of such consents were required and were received in 2014.

### 8.2.5 Protected Species

A number of different licences from Natural England are required for works that disturb protected species such as bats, badgers, reptiles etc. The licences required were all received by Wolf Minerals during 2013. The necessary works to relocate protected species have now been undertaken.

### 8.2.6 Rights-of-Way

A number of Rights-of-Way (public footpaths and bridleways) originally crossed the project site. The closure of these Rights-of-Way (and the provision of alternative routes that by-pass the site) required approval from the planning authority. All "Stopping up" and Diversion orders were received prior to the required works being undertaken. These works are now complete.

### 8.2.7 Installation Permit for the Reduction Kiln

An "Installation Permit" was required for the installation of the reduction kiln; this was received in July 2014.

All licences, permits, consents, orders and other key planning documents are held in a dedicated Environmental Approvals Register as part of Wolf Minerals' certified ISO14001 Environmental Management System.

## 8.3 ENVIRONMENTAL MANAGEMENT

Environmental management during both construction and operations has been undertaken within a formalised management system framework. The Environmental Management System was certified to ISO14001:2004 on 21$^{st}$ August 2015.

Within the Environmental Management System, a number of key environmental impacts and risks associated with construction and operation of the Hemerdon project are acknowledged and appropriate mitigation, management and monitoring procedures have been developed. These key impacts and risks include:

### 8.3.1 Mine Waste Management

The waste management scheme encompasses the mine waste and the two tailings streams, which include the relatively coarse DMS rejects and fine tailings. The DMS rejects are free draining and are being disposed of with mine waste in the waste embankment while the fine tailings are being stored in an engineered fully-lined mining waste facility (MWF) contained in and surrounded by the mine waste embankment. The combined structure is termed an integrated waste landform (IWL).

The design, construction and operation of the facility are tightly controlled under existing E.U. and U.K. regulations. The facility is classified as a Category A facility (the highest risk category) under these regulations. The design has received "pre-construction approval" by an independent competent person in accordance with the requirements of U.K. legislation. Each stage in the construction of the facility is independently audited and subject to approval by the Environment Agency.

A number of groundwater monitoring wells has been installed around the facility. Monitoring of these wells has identified elevated concentrations of certain trace elements, including arsenic, associated with the natural geochemical footprint of the area but has not detected any contamination arising from the current operations.

### 8.3.2 Impacts on Water Resources

Run-off from undisturbed ground on the project site drains directly into one of two streams running adjacent to the site. Run-off from disturbed ground and seepage into the open-pit, which may contain elevated concentrations of suspended solids, oils etc. is being collected in two sedimentation ponds prior to discharge; the ponds act to reduce suspended solids (and the larger of the two ponds forms one source of process water supply). Nevertheless, during the period of construction and early operations, a number of high rainfall events have resulted in the release of water containing elevated concentrations of suspended solids in excess of those permitted. Accordingly, the design, management and maintenance of the systems for control of surface run-off are regularly reviewed.

Dewatering as the open-pit deepens will create a localised lowering of the water table; the impact on local springs and wells (some of which are used for stock watering and irrigation) is not predicted to be significant, although some uncertainties are noted in the groundwater modelling.

A water treatment plant has been incorporated in the design to reduce concentrations of arsenic in process water that might arise during the processing of ore, some of which is known to contain elevated concentrations of arsenic.

### 8.3.3 Noise, Vibration and Dust

The control of noise, vibration and dust around mineral workings is considered a key concern; this is reflected in the tight noise limits imposed through planning conditions. In accordance with established U.K. practice, these limits are measured at noise-sensitive locations (in this case the nearest residential properties). In addition, planning conditions also require a number of specific mitigation measures that impose significant constraints on the operation, including limitations on times of plant operation and waste rock dumping.

Low Frequency Noise (LFN) has been detected emanating from the plant during commissioning. Wolf Minerals has identified the sources of the LFN and, in conjunction with GRES, is developing measures to reduce the noise at source.

### 8.3.4 Traffic and Impacts on the Local Road Network

Concerns over traffic volumes on local roads have long been a concern of residents and local authorities alike; a significant volume of heavy vehicle movements is already generated by the china clay industry. The Hemerdon project has again seen these concerns raised in discussions with local authorities and residents in the context of the new link road, which has been financed by Wolf Minerals and accepted by the Devon County Council.

### 8.3.5 Closure and Rehabilitation

Wolf Minerals has made separate provision for the costs of eventual closure in the form of a bond that has been agreed with various parties (landowners and regulatory authorities) as part of the permitting process. A bond for the full predicted cost of eventual closure, £14,046,955, has been in place since the start of construction. A separate bond for the value of £1,624,760 has also been provided as a condition of the MWF Permit; this bond covers liability for items such as post-closure monitoring of the waste facility.

## 8.4 FINANCIAL IMPLICATIONS

### 8.4.1 Capital Costs

The Model includes specific provision for the following environment-related costs that have been incurred between January 2015 and the start of operations:

- *Licence to operate/Environment:* £420 thousand; and,
- *Archaeological Clearance Programme:* £364 thousand.

These categories included the costs of all the required permitting initiatives, re-location of protected species, archaeological investigations, removal of historic contamination, development of Environmental and Safety Management Systems and ongoing environmental monitoring prior to the start of operations.

Micon has reviewed both the historic expenditure and the planned future expenditure on these items and can confirm that all relevant items have been accounted for. Micon notes, however, that there may be a risk of additional costs incurred in complying with environmental obligations should any remedial actions arise during the plant ramp up period.

### 8.4.2 Operating Costs

The Model includes specific provision for the following total environmental management costs that will be incurred during operations:

- 2016: £696 thousand per annum (£68,000/month); and,
- 2017 onwards: £582 thousand reducing progressively to £518 thousand by 2019.

Additional funding for community engagement and planning issues (some of which relate to environmental considerations) is identified separately within the Model.

The reduction in operating costs occurring in mid-2016 onwards is a consequence of the completion of one-off activities associated with the early mine life (mostly fulfilment of actions required by permit conditions). Whilst Micon generally supports the principal that environmental management costs will decrease with completion of one-off activities associated with the early mine life, Micon also advises that ongoing environmental resourcing should be monitored to ensure obligations continue to be met.

### 8.4.3 Closure Costs

Wolf Minerals has made separate provision for the costs of eventual closure in the form of a bond that has been agreed with various parties (landowners and regulatory authorities) as part of the permitting process. A bond for the full predicted cost of eventual closure, £14,046,955, has been in place since the start of construction. A separate bond for the value of £1,624,760 has also been provided as a condition of the MWF Permit; this bond covers liability for items such as post-closure monitoring of the waste facility.

Micon has reviewed the technical and financial aspects of the closure planning undertaken by Wolf Minerals and can confirm that all relevant items have been accounted for. Micon does note, however, that the cost estimate for the demolition of the process plant and associated infrastructure has been discounted to allow for the re-sale of scrap materials. Whilst this appears to have been accepted by the regulatory authorities and landowners, Micon notes that this is not compatible with current best practice.

# 9.0 FINANCIAL

## 9.1 CORPORATE

### 9.1.1 Wolf Minerals Group Corporate

The Wolf Minerals Consolidated section of the Model incorporates all of the Wolf Minerals UK costs from 1st January to 30th June 2015. From 1st July 2015 to the current end of the life of the Drakelands mine in May 2027, the group corporate costs have been included under the Commercial and Administration budget. All of the costs have been reported in GB pounds sterling.

**Micon Comment**

Micon has reviewed the above costs and considers the estimate to be realistic.

### 9.1.2 Corporate Assumptions

The corporate financial assumptions for the discount factor and US Dollar and British Pound Sterling exchange rates for the Model have not been reviewed by Micon as this is beyond the scope of this Report.

## 9.2 ECONOMIC ASSESSMENT

### 9.2.1 Project Assumptions

The scheduling assumptions have been summarised in Table 9.1. The scheduling assumptions reflect the current status of the project scheduling, but may be altered due to the current seven day per week production trial. These will be dependent on the granting of the permission at the end of the trial period.

**Table 9.1: Scheduling Assumptions**

| Category | Date |
|---|---|
| Plant Construction Commencement | February 2014 |
| Construction Period Prior to Mining (changed 1 month) | 18 months |
| Mine Establishment | May 2014 |
| Mining Commencement | December 2014 |
| Phase 1 Length | 8 months |
| Phase 1 End Date | 31st March 2016 |
| Months Mining Before Processing | 11 months |
| Processing Commencement | June 2015 |
| Mining End Date | 31st May 2027 |
| Processing End Date | 31st May 2027 |
| Processing Year End Date | 31st December 2027 |

**Micon Comment**

Micon has reviewed the scheduling assumptions and believes that they are appropriate based on current knowledge. The commodity pricing and realisation cost assumptions have not been reviewed by Micon as this is beyond the scope of this Report.

### 9.2.2 Capital Costs

The Model includes £7.7 million of capital costs over the remaining LOM.

The Lee Moor Road Diversion Contract has been awarded to C A Blackwell (Contracts) Ltd and the Proposed Contract Terms are "JCT SBC/Q2011 Standard Building Contract With Quantities 2011." This is a recognised Industry form of Contract produced by the Joint Contracts Tribunal. It has a good track record and is suitable for the Lee Moor Road Diversion Contract. Craddy Pitchers, a Civil Engineering Consultancy founded in 1977 and now based in Bristol and Exeter, has been appointed by Wolf to manage the Lee Moor Road Diversion Contract. The total estimated cost has been included in the capital costs. Micon is not aware of any major issues which are likely to substantially change the final contract price.

**Micon Comment**

Micon has reviewed the capital costs and considers the estimate to be realistic. Micon notes that there is a cost overrun account of £10.5 million available as well.

### 9.2.3 Administration Costs

Administration costs include all other site operating costs and group corporate costs. The average annual administration costs over the LOM are £5.8 million.

**Micon Comment**

Micon believes that the administration costs are reasonable.

### 9.2.4 Royalties and Tax

Royalties and taxes are summarised in Table 9.2.

**Micon comment**

Micon believes that the royalty, tax and depreciation parameters are reasonable.

**Table 9.2: Royalties and Tax**

| Parameter | Unit | Value |
|---|---|---|
| **Royalty** | | |
| Metal Royalty | % | 2 |
| RCF Royalty | % | 2 |
| Withholding Tax on RCF Royalty Payments | % | 20 |
| **Company Tax** | | |
| 31 March 2012 | % | 24 |
| 31 March 2013 | % | 23 |
| 31 March 2014 | % | 21 |
| Opening Tax Losses | GBP | - |
| Opening Depreciable Capital | GBP | - |
| **Depreciation Rates** | | |
| Mineral Exploration and Access | % | 25 |
| Development Capital | % | 18 |
| Deferment of Interest for Tax Purposes | Date | June 15 |

## 9.3 MARKET VALUATION

### 9.3.1 Assessment of Optimised Pit

A pit optimisation was performed by Wolf Minerals to assess the "potentially minable" resource beyond the current pit design assuming that the restrictions on the pit surface circumference are lifted. The unconstrained pit optimisation produced an ultimate pit shell with an 18-year mine life totalling 50.4. Mt at 0.15% W and 0.02% Sn and extend the current mine life by a further five years.

BDO has valued the material inside the 18-year pit, based on an estimate of the recoverable Measured and Indicated mineral resources provided by Wolf Minerals. The extended mining and processing schedule is shown below in Table 9.3.

**Table 9.3: Optimised Pit Schedule**

| Year | Unit | Year 1+ | Year 2+ | Year 3+ | Year 4+ | Year 5+ | Total |
|---|---|---|---|---|---|---|---|
| **Mining** | | | | | | | |
| Waste | t | 4,800,000 | 4,800,000 | 4,800,000 | 4,000,000 | 2,550,195 | **20,950,195** |
| Measured and Indicated Resources | t | 3,000,000 | 3,000,000 | 3,000,000 | 2,500,000 | 1,593,872 | **13,093,872** |
| Tungsten Grade | % | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.120 |
| Tungsten Metal | t | 3,600 | 3,600 | 3,600 | 3,000 | 1,913 | 15,713 |
| Tin Grade | % | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 |
| Tin Metal | t | 600 | 600 | 600 | 500 | 319 | 2,619 |
| **Processing** | | | | | | | |
| Ore Processed | t | 3,000,000 | 3,000,000 | 3,000,000 | 2,500,000 | 1,593,872 | 13,093,872 |
| Grade Processed WO3 | %WO3 | 0.151 | 0.151 | 0.151 | 0.151 | 0.151 | 0.151 |
| **Contained Tungsten WO3** | **mtu** | 298,260 | 298,260 | 298,260 | 248,550 | 158,463 | **1,301,792** |
| Tin Grade Processed | %Sn | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 | 0.020 |
| **Contained Tin Metal** | **t** | 331 | 331 | 331 | 276 | 176 | 1,443 |

Micon has provided an independent opinion of the market value of the Measured, Indicated and Inferred mineral resources outside of the 18-year optimised pit.

### 9.3.2 Micon In-Situ Valuation

It is generally accepted in the exploration and mining industry that the valuation of exploration properties and mineral resources is a subjective process and is greatly influenced by the prevailing market conditions and to some extent the experience and qualifications of the person conducting the work. The observations, comments and results of technical analyses presented in this Report represent Micon's opinions as of the date of this Report. Micon has visited the property on numerous occasions and is familiar with the region. Micon are confident that the opinions presented here are reasonable and that the overall valuation is a fair reflection of the value of the property in January 2016 based on the information available at the time.

In order to reach a fair market value Micon has selected to use an adapted Market Approach and an Appraised Value Method, or Cost Approach. The Appraised Value Method is based upon the potential for the existence of an economic ore body. This potential is appraised as the cost of exploration to test the mineral potential by applying the Multiple of Exploration Expenditure (MEE) method. The adapted Market Approach incorporates a net In-Situ Value method that ascribes a somewhat arbitrary value to the "mtu in the ground" (in this case) based on classification level of the mineral resource.

Micon has used the Cash Flow model for the Measured and Indicated mineral resources between the current Phase 2 pit design and the 18-year optimised pit to obtain a preferred value of £43.4/mtu $WO_3$ for the resources outside of the 18-year pit. Micon has estimated that the recoverable $WO_3$ in the Measured and Indicated mineral resources outside of the 18-year pit based on the Wolf Minerals Mineral Resources update 25th March 2015 will be 0.61 M mtu. The parameters used are presented in Table 9.4.

**Table 9.4: Parameters for MTU Unit Value Outside of the 18-Year Pit**

| Parameter | Unit | Value |
|---|---|---|
| Waste | Mt | 21.0 |
| Measured & Indicated Resources | Mt | 13.1 |
| W Grade | %W | 0.12 |
| In-situ Tungsten | M mtu | 2.0 |
| Tungsten Recovery | % | 65.7 |
| Tungsten Concentrate Grade | % | 67.2 |
| Recovered Tungsten | M mtu | 1.3 |
| Tungsten Price (80% of $400) | US $/mtu | 320 |
| Exchange Rate | US $/£ | 1.6 |
| Transport and Royalties | Percent of Revenue | 4 |
| Capital Costs | Percent of Revenue | 5 |
| Mining Costs | £/t Total Material | 2.02 |
| Processing Costs | £/t Processed | 4.07 |
| G&A | £/t Processed | 1.99 |
| Tax | % | 20 |
| Discount Factor | % | 12 |
| **Unit Value per mtu (in-situ)** | **£/mtu** | **43.4** |

The long term tungsten price 80% of US $400/mtu from the Model has been utilised for this assessment. At US $320/mtu and a discount rate of 12%, a unit value of £43.4 per mtu was calculated for the Measured and Indicated Resources outside of the 18-year pit.

Micon has assigned a factor of likelihood of the material being extracted to indicate the confidence in that material being mined. The likelihood of extracting all of the Measured and Indicated mineral resources outside of the pit design is 25%. Using these parameters a low value of £5.0 million and high value of £7.8 million was estimated based on variation of the discount factor with a preferred value of £6.6 million, shown in Table 9.5.

**Table 9.5: In-Situ Valuation of Measured and Indicated Mineral Resources Outside of the 18-Year Pit**

| Category | M + I Tonnage (Mt) | Recoverable (M mtu) | Value (£/mtu) | Likelihood of Extraction (%) | Value | | |
|---|---|---|---|---|---|---|---|
| | | | | | Low (£ million) | Preferred (£ million) | High (£ million) |
| Outside 18-Year Pit | 8.2 | 0.61 | 43.4 | 25 | 5.0 | 6.6 | 7.8 |

Micon has run a valuation on the Measured, Indicated and Inferred mineral resources outside of the 18-year pit using the Multiple of Exploration Expenditure method. Whilst it would be reasonable to expect that the majority of Inferred mineral resources would be upgraded to Indicated mineral resources with continued exploration, due to the uncertainty of Inferred mineral resources, it should not be assumed that such upgrading will always occur. To date

13,252 m of exploration drilling have been performed to obtain 35.7 Mt of ore reserves for the current pit design. Micon has assigned a cost of exploration drilling at £350/m for Measured and Indicated mineral resources and £175/m for Inferred mineral resources. This equates to £0.130/t for the Measured and Indicated mineral resources and £0.065/t for the Inferred mineral resources, shown in Table 9.6.

**Table 9.6: MEE Valuation of the Resources Outside of the 18-Year Pit**

| Category | Tonnage (Mt) | Value (£/t) | Value (£ million) |
|---|---|---|---|
| Measured + Indicated Mineral Resources | 8.2 | £0.130 | 1.1 |
| Inferred Mineral Resources | 81.9 | £0.065 | 5.3 |
| Combined | 94.8 | - | 6.4 |

Micon's valuation of the Hemerdon Project mineral resources that occur outside of Wolf Minerals' extended 18-year optimised pit, which are not included in the Model is presented in Table 9.7.

**Table 9.7: Summary of Micon Independent Valuation**

| Method | Mineral Resource | | Value (£ million) | | |
|---|---|---|---|---|---|
| | M + I (Mt) | Inf (Mt) | Low | Preferred | High |
| Market Approach (In-Situ Value) | 8.2 | - | 5.0 | 6.6 | 7.8 |
| Appraised Value (MEE) | 8.2 | - | - | 1.1 | - |
| | - | 81.9 | - | 5.3 | - |

Micon's opinion of the fair market value of this asset of the Hemerdon Project therefore lies in the range of £10.3 million and £13.1 million, with a preferred value of £11.9 million.

# 10.0 INTERPRETATION AND CONCLUSIONS

Micon has reviewed the technical assumptions and parameters used in the Model. This includes the resources and reserves, mining physicals, processing assumptions, environmental requirements, operating costs and capital expenditure.

## 10.1 MINERAL RESOURCES AND ORE RESERVES

Wolf Minerals appointed SRK Consulting to estimate Hemerdon mineral resources and SRK has utilised state-of-the-art geostatistical methods in developing the current mineral resource model. Micon has reviewed the methodologies employed and has confirmed that the mineral resources estimated for the Hemerdon Granite are probably conservative, but appropriate considering the data available. It is Micon's opinion that the SRK 25 m by 25 m by 10 m mineral resource model, with tungsten grade interpolated using ordinary kriging is probably subject over-smoothing of tungsten grades, but globally it is likely to be accurate within the confidence limits accepted for Measured and Indicated mineral resource estimates. There is potential to improve mill feed grades by rigorous application of a comprehensive grade control programme.

Micon has discussed the importance of grade control with Wolf Minerals management, particularly with respect to the potential to realise higher feed grade than planned and the transition from soft mineralisation to hard. Wolf Minerals has developed a programme of closely-spaced reverse circulation drilling to facilitate grade selection and to distinguish hard and soft ore types. The grade control drilling has been supplemented with horizontal channel sampling of bench faces. Together these sampling methods indicate that the ore mined to date is of slightly higher grade than expected from the SRK mineral resource model. This positive trend has been consistent to date but the improvement in grade cannot be confirmed until the plant achieves a steady state of production and a reliable metallurgical balance can be developed.

Due to the refractory nature of the killas mineralisation and the fact that at present there appears to be no prospect of economic extraction of tungsten and tin mineralisation, this material has not been reported as a mineral resource. The killas therefore exists as tungsten-tin mineralisation that may be converted to a resource in future if appropriate tungsten and tin recovery flowsheets can be developed.

The Hemerdon ore reserves are defined at a cut-off grade of 0.05% W or 0.063% $WO_3$, excluding tin credits. Tungsten concentrates are normally sold in metric tonne units (mtu) comprising 10 kg of $WO_3$. Wolf Minerals has assumed that the price received for tungsten in concentrates will be at a discount to the prevailing APT price. The ore reserves in the March 2015 estimate were defined using an APT price of US $300/mtu.

Hemerdon mineral resources were prepared and first disclosed under the JORC Code (2004). The mineral resource estimate was updated in March 2015 in accordance with the guidelines of the JORC Code (2012), which came into effect in December 2013.

## 10.2 MINING

Micon believes that the arrangements for mining are reasonable and production rates can be achieved on an on-going basis once initial production rates have been achieved. Wolf Minerals has applied for an extension of the seven days per week production trial so that an assessment can be made whilst operating during the drier months of the year.

Micon has reviewed the mining assumptions and finds the Dewatering Allowance and Rehandling Costs to be appropriate. The Fixed Monthly Management Charge for Phase 1 and 2 in the Model differs to the Blackwell Price Schedules. Micon understands that Wolf Minerals and Blackwell have agreed to omit the Infrastructure Management (septic) item from the Monthly Management Fee schedule for Phase 2. Micon further understands that the agreed prices for Phase 1 have been updated in the Model. Micon has not seen any document confirming the adjustment.

The reduction in mining rates applicable to the rise and fall adjustment clause have not been allowed for or projected in the Model.

Micon has reviewed the operating costs and consider them to be reasonable. Micon has noted that Phase 1 has been extended to the end of March 2016 and the Phase 2 rates are scheduled to commence on the 1st April 2016.

Prior to 31st December 2015, all ground breaking activity has been performed by ripping and a flat rate of £1.25 per bcm has been applied. From January 2016, drilling and blasting will commence; the Model costs are based on the maximum Phase 2 drill and blast rates from the Mining Services Contract.

Micon has examined the mining sustaining capital costs and considers them to be appropriate.

Micon considers the mining to be robust, but recommends that the Model should be updated to reflect the settlement of the Rise and Fall component of the Mining Services Contract.

## 10.3 MINERAL PROCESSING

The plant is fully operational under Wolf Minerals' ownership and has demonstrated that saleable tungsten concentrates can be produced and sold.

The key process requirement is for stable plant operation to allow a steady ramp up of throughput to design and full evaluation of the metallurgical performance. Metallurgical priority is on increasing the tungsten recovery in ramp up whilst also minimising the impact of any deleterious elements.

There may be a risk of increases in operating cost depending on any remedial measures identified during ramp up that may be required to improve current plant performance.

Wolf Minerals has the benefit of significant GRES input and from other independent consultants as required to assist with ramp up of the plant. Micon considers that, at this stage, there are no apparent fatal flaws in the process design, but does not discount that some process modifications may be required pending performance reviews in ramp up, which could impact production in the early stages of 2016.

## 10.4 ENVIRONMENTAL CONSIDERATIONS

The primary control over the development of mineral workings in England is exercised by the Mineral Planning Authority through granting of Planning Permission. Planning Permission was granted in 1986 to the previous owner of the project. Wolf Minerals accepted a voluntary updating of the conditions associated with the original Planning Permission in January 2011 to reflect changes in environmental standards and good practice. Wolf Minerals has subsequently incorporated some design elements and operating procedures that differ from those approved within the original Planning Permission and permissions to revise some aspects of the original project design have been received; other proposed changes are the subject of recent submissions that are awaiting determination.

Subsequent to the Planning Permission, Wolf Minerals has acquired a series of "secondary" permits covering issues such as mine waste management, water abstraction and discharge, disturbance of protected animal and plant species etc. These secondary permits are aimed at ensuring detailed aspects of the operation comply with specific regulatory requirements.

Micon has identified a number of key environmental impacts and risks associated with construction and operation of the Hemerdon project, all of which have been, or are being, addressed by Wolf Minerals in accordance with good practice and the requirements of the U.K. regulatory authorities. All such impacts and risks are being managed under a certified ISO14001 Environmental Management System.

The Model includes specific provision for environment-related capital costs that have been incurred between January 2015 and the start of operations. These costs include of all the required permitting initiatives, re-location of protected species, archaeological investigations, removal of historic contamination, development of Environmental and Safety Management Systems and ongoing environmental monitoring prior to the start of operations. The Model also includes specific provision for environment and health and safety related costs that will be incurred during operations.

Wolf Minerals is making separate provision for the costs of eventual closure in the form of a bond that has been agreed with various parties (landowners and regulatory authorities) as part of the permitting process.

## 10.5 FINANCIAL

Micon has reviewed the capital costs and considers the estimate to be realistic. Micon notes that there is a cost overrun account of £10.5 million available to Wolf Minerals.

Micon has reviewed the operating costs pertaining to each discipline as used in the Model and considers them reasonable.

Micon has reviewed the scheduling assumptions and believes they are appropriate based on current knowledge. The commodity pricing and realisation cost assumptions have not been reviewed by Micon as this is beyond the scope of this Report.

Micon believes that the administration costs, royalty, tax and depreciation parameters are reasonable.

A pit optimisation was performed by Wolf Minerals to assess the "potentially mineable" resource beyond the current pit design assuming that the restrictions on the pit surface circumference are lifted. The unconstrained pit optimisation produced an ultimate pit shell that would give an 18-year mine life totalling 50.4. Mt at 0.15% W and 0.02% Sn and extend the current pit design by a further four years. BDO has valued the material inside the 18-year pit based on an estimation of the recoverable Measured and Indicated mineral resources provided by Wolf Minerals.

Micon has conducted a valuation of Hemerdon Measured and Indicated mineral resources that are outside of the ultimate pit shell (18-year mine life). It is estimated that there is 0.61 million mtu $WO_3$ recoverable in the Measured and Indicated mineral resources outside of the 18-year pit. Micon has estimated a preferred value £43.4/mtu $WO_3$ recovered to these Measured and Indicated mineral resources to reflect increases in pit depth, mining and processing costs. A factor has been applied to reflect the likelihood of the material being mined at some point in the future. The likelihood of extracting all of the Measured and Indicated mineral resources outside of the 18-year pit is estimated to be 25%. Using these parameters a low value of £5.0 million and high value of £7.8 million was estimated based on variation of the discount factor with a preferred value of £6.6 million.

Micon has conducted a valuation on the Measured, Indicated and Inferred mineral resources outside of the 18-year pit using the Multiple of Exploration Expenditure (MEE) method and estimated a value of £0.13/t for the Measured and Indicated mineral resources and £0.065/t for the Inferred mineral resources. The MEE (preferred) valuation of the Measured and Indicated mineral resources is £1.1 million and the value of Inferred mineral resources is £5.3 million.

Micon's opinion of the fair market value of this asset (mineral resources outside of the 18-year pit) of the Hemerdon Project therefore lies in the range of £10.3 million and £13.1 million with a preferred value of £11.9 million.

## 11.0 DATE AND SIGNATURE PAGE

Signed on behalf of Micon International Co Limited:


**Stanley C. Bartlett, M.Sc., PGeo.**
**Micon International Co Limited**

**Dated: 12th February 2016**

## 12.0 REFERENCES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- Memorandum to James McFarlane from Daniel Guibal (SRK) dated 23rd March 2015 subject "JORC Code 2012 Resource Statement for the Hemerdon Tungsten deposit".
- "Ore Reserves Update March 2015" dated 25th March 2015, prepared by Rick Taylor, Technical Services Superintendent of the Drakelands Mine, Wolf Minerals Limited.

# 13.0 CERTIFICATE

## CERTIFICATE OF AUTHOR STANLEY CURRIE BARTLETT

As the author of the "Independent Technical Assessment and Valuation Report of the Hemerdon Tungsten Project, Devon, Cornwall United Kingdom", dated 12th February 2016, I, Stanley Currie Bartlett, hereby certify that:

1) I am employed by, and conducted this assignment for, Micon International Co Limited, Suite 10, Keswick Hall, Norwich, United Kingdom. tel. 0044(1603) 501 501, fax 0044(1603) 507 007 e-mail sbartlett@micon-international.co.uk;

2) I hold the following academic qualifications:

| | |
|---|---|
| B.Sc. Geological Sciences | University of British Columbia, Vancouver, Canada, 1979; |
| M.Sc. (Mining Geology) | Camborne School of Mines, Redruth, England, 1987; |

3) I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (membership # 19698); In addition I am a member in good standing of the Society for Mining, Metallurgy and Exploration;

4) I have worked as a geologist in the minerals industry for more than 36 years;

5) I do, by reason of education, experience and professional qualifications fulfil the requirements of a Competent Person as defined by the JORC Code or Qualified Person as defined in "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (The Valmin Code 2005). My work experience includes five years as an exploration geologist developing tungsten, gold, silver and base metal deposits, more than 14 years as a mining geologist in both open pit and underground mines and 17 years as a consulting geologist working in precious, ferrous and base metals and industrial minerals. I have more than 30 years of experience of mineral resource estimation;

6) As of the date of this certificate, to the best of my knowledge, information and belief, the "Independent Technical Assessment and Valuation Report of the Hemerdon Tungsten Project, Devon, Cornwall United Kingdom", dated 12th February 2016, contains all scientific and technical information that is required to be disclosed to make this Report not misleading;

7) I am independent of BDO Corporate Finance (WA) Pty Limited and Wolf Minerals Limited, its directors, senior management, and its other advisers; and,

8) I am responsible for the preparation or supervision of preparation of all sections of this Report.



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**Stanley C. Bartlett, M.Sc., PGeo. (#19698)**
**Senior Economic Geologist, Managing Director,**
**Micon International Co Limited**
**Date: 12th February 2016**

# 14.0 GLOSSARY AND ABBREVIATIONS

## 14.1 MINERAL RESOURCES AND RESERVES DEFINITIONS

### 14.1.1 Mineral Resources

The mineral resources and ore reserves have been classified according to the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code) 2012. Accordingly, the resources have been classified as Measured, Indicated or Inferred, the reserves have been classified as Proven, and Probable based on the Measured and Indicated resources as defined below.

A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify, geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to Ore Reserves. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics, are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits,

workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered.

A Measured Mineral Resource has a higher level of confidence than that applying to an Indicated or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.

### 14.1.2 Ore Reserves

An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level (as appropriate) and include application of Modifying Factors. Such studies demonstrate that, at the time of reporting extraction could reasonably be justified.

The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

A 'Probable Ore Reserve' is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve.

A 'Proved Ore Reserve' is the economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors.

## 14.2 GLOSSARY

**Acicular:** A crystal habit exhibiting slender, needle-like crystals.

**Amenability to processing:** The ability of minerals to separate into certain products in the course of processing. It depends on the contrast range of the mineral diversification properties. Amenability to processing is a metallurgical evaluation of a possibility to extract minerals from ore by means of processing.

**Ammonium Paratungstate $(NH4)_{10}H_2W_{12}O_{42}.4H_2O$:** Intermediate tungstate refined product comprising of white crystalline powder.

**Aphanitic:** A term used for igneous rocks exhibiting crystals not visible to the naked eye.

**Argillaceous rocks:** Group of detrital sedimentary rocks, commonly clay, shale, mudstone, siltstone and marl.

**Arsenopyrite (FeAsS)**: Iron arsenic sulphide. Commonly gold bearing mineral formed in high temperature veins.

**Aureole:** A region in country rock around an igneous intrusion that has experienced thermal metamorphism due to heat from the body of magma.

**Basalt:** A finely crystalline igneous rock with a basic composition.

**Batholith:** Large body of igneous rock formed beneath the Earth's surface by the intrusion and solidification of magma.

**Brecciated (breccia):** Fragmented rock consisting of angular particles that have not been worn by water (unlike conglomerates).

**Cassiterite ($SnO_2$):** Tin oxide. Commonly found in vein deposits, granitic rocks, pegmatites and in areas of contact metamorphism.

**China Clay:** A fine, usually white clay, composed mainly of kaolinite.

**Chlorite $(Mg,Fe)_3(Si,Al)_4O_{10}(OH)_2.(Mg,Fe)_3(OH)_6$**: Sheet silicate mineral primarily found in weakly metamorphosed rocks from the alteration of either clays in sedimentary rocks or pyroxenes, amphiboles and micas in igneous rocks.

**Cupola:** A small, dome-shaped, satellite intrusion projecting upwards from the main body of a larger intrusion or batholith.

**Cut-off criteria:** A set of requirements for the quality and quantity of a mineral in subsoil, for mining and other conditions of the deposit development that define the commercial value of the deposit. The cut-off criteria are used to estimate ore reserves.

**Cut-off grade:** The minimum concentration of a valuable component in a marginal sample of the mineral. The cut-off grade is used to delineate parts of the deposit to be mined.

**Diabase:** A dark-grey to black, finely crystalline igneous rock.

**Dense medium separation:** The process of gravity separation of minerals based on using a dense medium (suspension).

**Dilution:** Waste rock that is, by necessity, removed along with the ore in the mining process subsequently lowering the grade of the ore.

**Dip angle:** The angle between the direction of the described geological structure and horizontal plane.

**Due diligence:** The procedure of forming an objective opinion about the investment facility that includes investment risks, independent assessment of the facility, comprehensive research on the company's operation, complex inspection of its financial status and market position. Due diligence is usually performed prior to a business purchase, a merger (acquisition) deal or start of cooperation with the company.

**Dyke:** An intrusive geological body with transversal contacts. The length of a dyke many times exceeds its width, whereas the planes are nearly parallel. As such, a dyke is a fracture that has been filled with magmatic melt.

**Feldspars:** A group of silicate minerals with four distinct categories, potassium feldspars ($KAlSi_3O4$); sodium feldspars ($NaAlSi_3O8$); calcium feldspars ($CaAl_2Si_2O_8$); and barium feldspars ($BaAl_2Si_2O_8$).

**Flotation:** A mineral separation process whereby a froth created in water by a variety of reagents floats some finely crushed minerals whereas others sink.

**Fluorite ($CaF_2$)**: Calcium fluoride mineral commonly found in hydrothermal veins.

**Geological fault:** Discontinuity of rock with or without a shift on the surface. Faults occur due to the movement of rock masses.

**Granite:** A coarsely crystalline igneous rock consisting essentially of quartz, alkali feldspar and commonly mica.

**Greenschist facies:** Zone of low-grade metamorphic rocks characterised by a suite of minerals typically containing actinolite, epidote, chlorite, albite and quartz.

**Greisen:** A medium-temperature metasomatic rock characterised by the presence of quartz and white mica, commonly with topaz, fluorite, tourmaline and locally with amazonite, orthoclase, andalusite and diaspore. Typically greisens may host Be, W, Mo, Sn, and Ta mineralisation.

**Greisenisation:** A metasomatic process leading to the formation of greisens.

**Hard rock deposit:** Primary accumulation of a mineral substance in subsoil that has not been altered or destroyed near the ground surface. Hard rock deposits are opposed to placer deposits formed by the result of disintegration of hard rock deposits and mineralised rock.

**Hematite ($Fe_2O_3$):** Iron oxide common in igneous, metamorphic and sedimentary rocks.

**Hornblende**: A common calcic amphibole (silicate mineral).

**Hornfels:** A metamorphic rock that is formed by contact metamorphism.

**Host rock:** Wall rock that confines the mineral occurrence zone.

**Intrusion:** A body of igneous rock that invades older rock. The invading rock may be a plastic solid or magma that pushes its way into the older rock.

**Jaw crusher:** A device in which rock is broken by a reciprocating compressive action between two steel plates.

**JORC Code:** The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserve Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia. The current edition is dated 2012.

**Kaolinite ($Al_2Si_2O_5(OH)_4$):** A common clay mineral.

**Kaolinisation:** Process whereby feldspar in granite is weathered by hydrothermal activity to produce kaolinite.

**Limonite ($FeO.OH.nH_2O$)**: Hydrated iron oxide mineral.

**Magmatic:** Consisting of, relating to or of magma origin.

**Magnetite ($Fe_3O_4$):** Iron oxide common in igneous, metamorphic and sedimentary rocks, strongly magnetic and an important source of iron.

**Metamorphic rock:** A rock that has, in a solid state, undergone changes in mineralogy, texture, or chemical composition as a result of heat or pressure.

**Mica:** Group of sheet silicate minerals which characteristically have perfect basal cleavage.

**Mine:** A mineral mining enterprise. The term is often used to refer to an underground mine.

**Mineral Deposit:** A body of mineralisation that represents a concentration of valuable metals. The limits can be defined by geological contacts or assay cut-off grade criteria.

**Mining method:** A combination of technical solutions that define the geometry, technology and sequence of mining.

**Muscovite ($KAl_2(AlSi_3O_{10})(F,OH)_2$)**: Sheet silicate mineral common in igneous and metamorphic rocks, occurring as a detrital mineral in sedimentary rocks.

**Open pit**: A mine that is entirely on surface; also referred to as open-cut or open-cast mine.

**Operational reserves**: Balance mineral reserves that have been adjusted for dilution and losses, and have been incorporated into a mine production schedule.

**Ore:** Natural mineral formation that contains valuable components in such compounds and concentrations that make the mining technically and economically feasible.

**Ore body**: A body of mineralisation that either has been, or demonstrates a reasonable probability of being mined profitably.

**Ore field**: A collection of mines that exploit a common mineral deposit or cluster of closely related mineral deposits.

**Overburden:** Waste rock overlying and hosting mineral deposits that is subject to excavation in the course of open-pit mining. The process of overburden removal to access and mine the mineral is called stripping.

**Pelite:** A metamorphosed argillaceous rock.

**Pluton:** A body of intrusive igneous rock that has crystallised from magma below the surface of the Earth.

**Porphyritic (with porphyritic structure):** Rock that contains relatively large crystals (phenocrysts) cemented by a groundmass of smaller crystals, glassy or non-holocrystalline material.

**Processing:** A combination of processes for primary treatment of solid minerals in order to extract the products amenable to further technically and economically feasible chemical or metallurgical treatment or use.

**Run of mine (ROM)**: A term used loosely to describe ore of average grade as produced from the mine.

**Saleable ore:** The term used to describe ore of average grade coming from the mine.

**Sampling:** The process of studying the qualitative and quantitative composition and properties of natural formations comprising a deposit.

**Scorodite ($FeAsO_4.2H_2O$)**: Hydrated iron arsenate formed from the oxidation of arsenic minerals.

**Sedimentary rock:** Rock formed by sedimentation of substances in water, less often from air and due to glacial actions on the land surface and within sea and ocean basins. Sedimentation can be mechanical (under the influence of gravity or environment dynamics changes), chemical (from water solutions upon their reaching saturation concentrations and as a result of exchange reactions), or biogenic (under the influence of biological activity).

**Skarn:** Metasomatic rock formed at the contact between a silicate rock (or magmatic melt) and a carbonate rock. It consists mainly of Ca-Mg-Fe-Mn- silicates, which are free or poor in water. Skarns formed from the magmatic or other silicate rock are termed endoskarns and skarns formed from the carbonate rocks are termed exoskarns.

**Stripping ratio:** The relation of overburden volume to a mineral volume. A stripping ratio largely defines the economic feasibility of open-pit mining.

**Subgreenschist facies:** Zone of very low-grade metamorphic rocks characterised by a suite of minerals typically containing prehnite, pumpellyite, actinolite and laumontite.

**Suite:** An aggregate of conformable rock beds with similar general properties that differentiate them from overlying or underlying rocks.

**Supergene:** Term used to describe near-surface processes and their products, formed at low temperature and pressure by the activity of descending water and gas.

**Tailings:** Liquid wastes of mineral processing with valuable component grade lower than that of the initial material.

**Tailings facility:** A complex of special structures and equipment used for storage of liquid wastes of mineral processing (tailings).

**Tourmaline ($Na(Mg,Fe,Li,Mn,Al)_3(Al)_6(BO_3)_3(Si)_6.O_{18}(OH,F)_4$):** A boron silicate mineral commonly found in granites, pegmatites and veins, as well as some metamorphic rocks.

**Tourmalinisation:** A metasomatic process involving boron rich volatiles reacting with pre-existing minerals leading to the formation of various types of tourmaline.

**Tuff:** A fragmental rock consisting of consolidated volcanic ash and small rock fragments ejected from a volcanic eruption.

**Vein:** Tabular geological body formed as a result of mineral substance filling a fracture or due to metasomatic replacement of rock with mineral(s) along a fracture. Unlike dykes formed primarily by magmatic rock, a vein is composed of vein and ore minerals (quartz, carbonated, sulphides etc.).

**Volcanogenic:** Of volcanic origin.

**Waste dump:** An artificial dump formed as a result of disposing of overburden (waste rock) at specially designated sites.

**Wolframite ($(Fe,Mn)WO_4$):** Iron manganese tungstate mineral commonly found in veins associated with granitic intrusions.

## 14.3 ABBREVIATIONS

| | |
|---|---|
| ° | degree (angle) |
| % | percent |
| < | Less than |
| > | Greater than |
| £ | Pound(s) sterling |
| AMAX | American Metal Climax, Inc. |
| AMPLA | Australian Mining & Petroleum Law Association |
| APT | Ammonium paratungstate |
| AU $ | Australian dollar(s) |
| BCM | Bank Cubic Metres |
| BDO | BDO Corporate Finance (WA) Pty Ltd |
| °C | Centigrade |
| CP | Competent Person |
| d | Day(s) |
| DFS | Definitive Feasibility Study |
| EIS | Environmental Impact Statement |
| Fe | Iron |
| g | Gram(s) |
| g/L | Grams per litre |
| g/t | Grams per tonne |
| GB £/t | British Pounds Sterling per tonne |
| h | Hour(s) |
| HIMS | High Intensity Magnetic Separation |
| $ID^2$ | Inverse distance squared |
| IRR | Internal Rate of Return |

| | |
|---|---|
| kg | Kilogramme |
| km | Kilometre(s) |
| $km^2$ | Square Kilometre |
| kW | Kilowatt(s) |
| kWh | Kilowatt hour(s) |
| kWh/t | Kilowatt hours per tonne |
| L | Litre(s) |
| LIMS | Low Intensity Magnetic Separation |
| LOM | Life-of-Mine |
| Ma | Millions of years ago |
| m | Metre(s) |
| mm | Millimetre |
| µm | Micron |
| $m^2$ | Square metre |
| $m^3$ | Cubic metre |
| m/s | Metres per second |
| Micon | Micon International Co Limited |
| Mn | Manganese |
| MSC | Mining Services Contract area |
| Mt | Million tonnes |
| Mt/a | Million tonnes per year |
| MWF | Mining waste facility |
| mtu | Metric tonne unit |
| NPV | Net Present Value |
| ppm | Parts per million |
| QA/QC | Quality assurance/quality control |
| QP | Qualified Person |
| ROM | Run of Mine |
| s | Second |
| Sn | Tin |
| SRK | SRK Consulting (UK) Limited |
| st | Short ton (2,000 pounds) |
| st/d | Short tons per day |
| st/y | Short tons per year |
| t | Tonne (metric, 2,204.6 pounds) |
| t/a | Tonnes per year |
| t/d | Tonnes per day |
| t/h | Tonnes per hour |
| t/m | Tonnes per month |
| US $ | United States dollar(s) |
| UPVC | Unplasticised polyvinyl chloride |
| V | Volt(s) |
| VAT | Value Added Tax |
| W | Tungsten |
| $WO_3$ | Tungsten trioxide |
| Wt% | Weight percent |
| XRF | X-ray fluorescence |
| y | Year(s) |